Mill Valley Air Force Station
East of Ridgecrest Boulevard, Mount Tamalpais
Mill Valley Vicinity
Marin County
California

HABS No. CA-2615

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Buildings Survey
National Park Service
Western Region
Department of the Interior
San Francisco, California 94107

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HISTORIC AMERICAN BUILDING SURVEY
MILL VALLEY AIR FORCE STATION

HABS No. CA-2615

Location: On the summit of Mount Tamalpais in Marin County, California
Off of California State Highway 1 on East Ridge Crest Boulevard.
West of Mill Valley, California.
North of San Francisco, California.

Universal Transverse Mercator Coordinates:
10.535320.4197420
10.535000.4197000
10.534540.4196680
10.534580.4197000
10.535000.4197260

Present Owner: National Park Service leases the land from the Marin Municipal Water District.

Present Occupant: Mostly vacant except for the operations area which is occupicd by the Federal Aviation Administration Facility

Present Use: Federal Aviation Administration Facility

Significance: Mill Valley Air Force Station (MVAFS) played a significant role in the United States Air Defense system during the period of the Cold War. The threat of Soviet nuclear and air force power warranted the construction of early warning radar stations throughout the country. With the opening of the Berlin Wall in 1989 and the subsequent end to the Cold War, retrospective scholarship has labeled contributing defense systems, such as early warning radar, important features of United States military history. In fact, America's first major construction project as a result of Cold War hostilities was, apparently, the system of early warning radar stations of which Mill Valley Air Force Station was one.

The National Park Service (NPS) leased the MVAFS in 1983. Also in the possession of the NPS is a Nike Missile Site located at Fort Barry. Together these two sites represent a major part of the air defense system utilized by the United States during the Cold War period.

Part I. HISTORY AND DESCRIPTION

A. Physical History:

The Mill Valley Air Force Station (MVAFS), one of ten similar early warning radar stations on the West Coast of the United States, made significant contributions to the nation's defense program during the period of the Cold War.

1. Date of erection:

   circa 1950-1951[1]

2. Architect:

   Holabird, Root and Burgee for the Army Corps of Engineers.[2]

3. Original and Subsequent Owner:

   The original and continuous owner of the property is the Marin Municipal Water District (MMWD). The Air Force leased the land from MMWD from 1949 to 1983 and constructed over sixty buildings on the property. In March of 1983, the lease was transferred to the National Park Service (NPS). The current lease with the National Park Service expires in the year 2005. The Federal Aviation Administration currently uses the buildings, radar facilities, and adjacent helipad on the east ridge for radar tracking of air traffic in the Bay Area.

4. Builder, Contractor, Suppliers:

   United States Army Corps of Engineers.

5. Original Plans and Construction:

   Several site plans are housed in the offices of the Golden Gate National Recreation Area, National Park Service. Other plans and construction documents are located in the collections of the FAA Radar Station now housed in the old Air Force operations building (Building 408). Individual building plans and construction designs have yet to be recovered for MVAFS. There are plans for Klamath Air

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[1] Construction started in 1950 according to Joseph Jeramiah Hagwood, Jr. Engineers at the Golden Gate: US Army Corps of Engineers. 1980, 261. The station opened in 1951 according to a newspaper article entitled "Wraps Lifted from Radar Station." San Rafael Independent Journal. December 14, 1953.

[2] Chappell, Gordon. In his National Register Determination of Eligibility from for Klamath AFS (1985) Chappell identified the plans for Klamath as having been produced in the Chicago office of Holabird, Root and Burgee for the Army Corps of Engineers. From comparison of photographs, and a site inspection by Bridget Maley of Klamath on April 12-13, 1995 it has been determined that many of the buildings at MVAFS are very similar to the buildings constructed at Klamath. Chappell noted that many of the United States Early Warning Radar Stations of the same caliher as Mill Valley were built from these Holabird, Root and Burgee standard plans.

Force Station located within Redwood National Park in Northern California.

6. Alterations and Additions:

It appears that the station was constantly undergoing changes including new additions, as well as the remodeling of old buildings.[3]

B. Historical Context:

1. Cold War

In the years immediately following World War II, the United States and the Soviet Union entered an era of highly strained foreign relations. This new type of world conflict centered around competitive ideologies, atomic arms development, military build-up, and the management of different spheres of influence. Fears of nuclear attack from the Soviet Union were real and widespread throughout the United States. Now remembered as the Cold War, this fear materialized into a sophisticated national security plan and defense system in the United States. As part of this national security system, the Mill Valley Air Force Station housed the 666th Aircraft Control and Warning Squadron (later simply known as the 666th Radar Squadron) of the United States Air Force.

The larger system of national defense that came into being during the Cold War was one of great urgency. As the Soviets gained more nuclear capability, the United States saw itself as increasingly vulnerable to Soviet attack. The Soviets exploded their first nuclear weapon in the North Pacific Peninsula of Kamchatka in September of 1949. Truman informed the American people on September 23, 1949 of this episode in the arms race.[4] Both Superpowers scrambled to win allies and to produce increasingly more advanced technology. With the Containment Policy as its guide for foreign policy, the United States would encounter crisis after crisis with the Soviet Union from the end of World War II to the opening of the Berlin Wall in 1989.[5]

Writing in July of 1947, George F. Kennan, one of the chief architects of Cold War policy, defined the Containment Policy. His theory was based on the assertion that the United States must contain Communism to its present boundaries. He noted that further expansion of the Communist empire would be devastating to American interests. The United States policy was to peacefully, through nuclear deterrent, block the Soviet threat of domination of Eastern Europe.

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[3] A major change in the appearance of the buildings occurred when wood siding replaced the original asbestos shingles. Discussions with a National Park Service employee, Daniel Stephens, revealed that the dark wood siding was put on the buildings in the early 1970's. Comparison of photos indicates that the wood siding was not present at the time of the publication of Ever Watchful: 666 Radar Station, 1975.

[4] Schaffel, Kenneth. The Emerging Shield: The Air Force and the Evolution of Continental Air Defense: 1945-60. (Washington, DC: Office of Air Force History, 1991), 111.

[5] Gaddis, John L. The United States and the Origins of the Cold War: 1941-1947. (New York: Columbia UP, 1972), 316-330.

Soviet expansion into Eastern Europe was commented on by Winston Churchill in his famous Iron Curtain Speech on March 5, 1946. Churchill claimed that Eastern European countries were being cut off from the rest of Europe by the Soviets. This assertion promulgated the fears of United States policy makers that the Soviet Empire was becoming a strong international force. In April of 1949, the United States and its allies in Western Europe formed the North Atlantic Treaty Organization in order to deter the Soviets with this strong military alliance. Later that same year, the Soviets successfully exploded an atomic bomb. This event came as a great shock to United States Military Intelligence which foresaw full scale Soviet atomic capabilities as several years in the future.

2. Response to Soviet Cold War Aggression:
   Establishment of a National Radar System.

The United States acted quickly to combat Soviet advances in nuclear technology. Plans were made to construct radar stations across the country to detect Soviet infiltration of United States Air Space. Planning began in late 1947 for a national, early warning radar system as a first step in defending the United States against air attack. The SUPREMACY network was proposed with 300 radar sites.[6] A few SUPREMACY sites were established, however they were determined ineffective and the entire program was eliminated from the national budget in 1949.[7]

In December 1949, a new radar system called PERMANENT was proposed, which would protect the United States against Soviet air attack.[8] The PERMANENT network was to have 75 radar sites each providing overlapping coverage so that the coastlines would be completely guarded. Ten of the sites were designated control stations. Because the PERMANENT network would not go into operation until July 1, 1951, an interim system called LASHUP was quickly put into place using the same AN/CPS-5 radars that were proposed with the SUPREMACY system. Because of delays, the PERMANENT system did not become operational until January 1, 1952. Even by that point, there were shortages of reliable radar equipment.[9]

Beginning in 1951, air defense of the United States was linked with that of its northern neighbor Canada with the first of a series of multi-national radar networks. In 1951, a network of 35 radar sites along the 50th parallel, called the PINETREE line, was begun in Canada. A later system along the 60th parallel was called the Mid-Canada system.[10] In 1954, construction was begun on the Distant Early Warning System (DEW line), a string of radar stations across northern Canada protecting possible Soviet infiltration across the north pole. This system went into operation in 1957. A combination of American and Canadian sites were administered by NORAD (North American Air Defense Command), established in 1959.[11]

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[6] SUPREMACY is the official name of this system.

[7] Binder, Mike and Mark Morgan. Nike Quick Look III. (Fort Worth: Acromk, June, 1990), 4/18.

[8] PERMANENT is the official name of this system.

[9] Binder and Morgan, 4/18 and 4/19.

[10] Binder and Morgan, 5/18.

[11] Schaffel, 213-16, 246-54, 259.

As these various networks were being built, it was apparent that large areas would still not be protected. The Ground Observer Corps, consisting of men with binoculars, supplemented coverage in some areas for low-flying aircraft. This manual system was expensive and ineffective in difficult weather. In 1951, the Gap-Filler radar network was proposed "to detect low-flying aircraft in those areas of the country where coverage by the primary radar sites was terrain or range-limited." The number of sites proposed ranged from 205 to 625.[12]

In this early period of radar defense, many different types of radar were in use, including the FPS-3, CPS-5, CPS-6B, FPS-14 and FPS-18.[13] Whatever radar was used, all were part of what was called a manual system. The information gathered had to be relayed by telephone to other bases for response. When a radar station informed an Air Force base, to which it was linked by a closed telephone line, of an unidentified aircraft, the Air Force base dispatched fighter-interceptor planes to investigate. Once dispatched, these planes were in radio communication with the radar station, in order to locate the unidentified aircraft. If an enemy plane was discovered, the U.S. flyer had orders to shoot it down.

Several years later a second type of response became possible. At the same time that the Air Force responded with fighter-interceptor aircraft, the Army could respond with missiles. Army units at some radar stations were linked to Nike missile bases. At least some of these units were linked to Nike missile batteries by the Missile Master (and later the Missile Mentor) system. Sizable equipment for the Missile Master system required new space at radar stations.

There were gaps in the protection afforded by this national radar system. It was not effective for anything lower than 5,000 feet, and had to be supplemented by the Ground Observer Corps which was useless in foggy weather, or Gap-Filler radar sites. This system was however, not without successes. According to The Emerging Shield, a study published by the Office of Air Force History, "By 1960, as a result of the investment of billions of dollars in research, development, and hardware, the nation reaped its reward: the most sophisticated air defense system ever built."[14]

3. Semi-Automatic Ground Environment (SAGE)

Even before the PERMANENT network and other manual radar systems went into operation, planning was begun for an automated system which could receive and analyze data from many stations simultaneously. This work began under the direction of George E. Valley at The Massachusetts Institute of Technology in 1949. In 1953, an automated system was put in place at North Truro AFS, Massachusetts, followed by development of the SAGE network. SAGE went into operation in phases at 21 regional processing centers from 1958 to 1961. Each regional center was housed in a four-story blast-proof concrete structure along with a computer and data transmission systems. With inauguration of the SAGE system, data was relayed from Air Force station radars by telephone line to the

[12]Binder and Morgan, 7/18
[13]Binder and Morgan, 4/18
[14]Schaffel, 267-68.

SAGE computer. Air Force stations required new space for data transmission equipment in the operations buildings, and improved radars.[15]

4. Evolution of the Radar System — Missile Threat

The early warning radar system was established to identify attack by enemy airplanes. As the potential for Soviet attack by missiles became apparent, new types of radar technology, new radar sites, and modifications of the radar and response systems were studied. Unlike the bomber threat, which could come from the east, north, or west, the first missile threat was from the north only, over the pole. When Sputnik was launched on October 4, 1957, displaying the potential for Soviet missile attack, a 1955 plan for a Ballistic Missile Defense System (BMEWS) was revived. This plan, called General Operational Requirement 156, established three missile radar sites — in Greenland, Alaska, and England, between 1960 and 1963. Although the development of Inter-Continental Ballistic Missiles (ICBMs) changed the nature of the threat, and the radar needed to detect the threat, the Air Force believed that a missile attack would be followed by a bomber attack, and that the existing radar network remained an important aspect of the air defense system. Nevertheless, from the early 1960s, funding limitations for the radar network together with technological improvements resulted in a decline in the number of radar stations.[16]

Another response to the threat from missiles was the Backup Interceptor Control (BUIC) system which was established at 14 stations in 1963-1968. BUIC centers were capable of carrying out the functions of SAGE centers that might be destroyed in a missile attack.[17]

With the advent of Soviet capability for Sea-Launched Ballistic Missiles (SLBMs) in the mid-1960s, new radar technology (AN/FSS-7 radars) was installed at six stations.[18] The threat from ICBMs over the pole reduced the importance of some of the coastal radar stations watching for bombers. However, those stations equipped with SLBM radar were given an enhanced importance.

5. PAVE PAWS

In June 1975, a plan was announced for a new early warning radar system for sea-launched ballistic missiles. The system was called PAVE PAWS (Precision Acquisition Vehicle Entry Phased Array Warning System). PAVE PAWS would consist of two giant new radar facilities, one at Otis AFB, Massachusetts, and one at Beale AFB, near Marysville, California. These new facilities would render obsolete the six existing SLBM radars at stations on the Atlantic and Pacific coasts. PAVE PAWS went into operation in 1980. After that time, the remaining Air Force radar stations began to be closed down, with this closure complete by 1988.[19]

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[15]Binder and Morgan, 9/18 to 10/18.
[16]Schaffel, 259-61.
[17]Binder and Morgan, 10/18
[18]Binder and Morgan, 12/18.
[19]Corbett, Michael. Architectural Study of Beale Air Force Base. (Chico, California: Dames & Moore, 1994), 12.

6. Joint Surveillance/Joint Use

In 1969, development of the National Airways System (NAS) was begun, merging the civilian air traffic surveillance system of the Federal Aviation Administration (FAA) and the military surveillance system of the Air Defense Command of the USAF, under the administration of the FAA.

From 1979 to 1988, most radar stations still operating were transferred to the FAA. At first the system was called the Joint Surveillance System (JSS) with eleven Joint Control Centers (JCC).[20] Later, the sites were called Joint Use Sites (JUS). These sites continued to play a diminished military surveillance role. Many former Air Force stations, established as radar stations, are still functioning as FAA sites such as the MVAFS. In the transfer from military to civilian operation, personnel requirements decreased dramatically, from 200 to 250 military personnel at an Air Force station, to only eight civilian employees at an FAA site. Because of this, most, if not all, former Air Force stations closed their housing areas.

7. Radar Stations

Air Force stations were characteristic installations of the 1950s, often built in remote places, often on mountain top sites. By definition these were small, "minor installations," in comparison to larger bases with airfields. Air Force stations were built primarily as radar sites, but also as supply depots and research facilities. By the late 1950s, there were over 200 Air Force stations across the United States. After that time, their numbers declined as technology changed and the Air Force went through a series of reorganizations.[21]

Within a month of the Soviet atomic bomb explosion in 1949, the U.S. Army Corps of Engineers had contracted with the Chicago architectural firm of Holabird, Root and Burgee to design plans for the system of Air Force radar stations. The plans for radomes, airmen's barracks, administration buildings, mess halls, recreation facilities, and maintenance shops appear to have been standard for all of the stations, which varied principally in the arrangement of the buildings on variable sites.[22]

The heart of each station was the radome and adjacent operations building. The radar equipment was located in a corrugated metal building atop which was a 35-foot diameter white spherical dome made of a nylon and rubber skin. Air pressure on the inside of the dome held it to its spherical shape. The nylon and rubber skin was strong enough to protect the radar equipment inside from the elements, yet the membrane was thin enough so that the radar could operate. Next to the radome was the operations building, whose bland concrete exterior gave no hint of the complex operations within. A dozen or so radar scopes or scanners were staffed by airmen, who called themselves "scope dopes." They were on the lookout, twenty-four hours a day, for aircraft that came within radar range. When a blip

[20]Binder and Morgan, 14/18.

[21]Chappell, Item 7, page 2.

[22]U.S. Army Corps of Engineers and Chappell, Item 8 page 5. Plans for Klamath Air Force Station (now part of Redwood National Park) in Northern California have been recovered and studied. The plans note that the buildings are for a certain type of radar station.

showed up on a screen, the airman would wait a few seconds for the radar antenna to revolve and come around again. The airman could then determine whether the blip represented an aircraft or a flock of birds depending on how far it had moved in that period of time. All aircraft were checked against flight patterns which commercial aircraft were required to post in advance. Such aircraft as strayed off course were given close scrutiny, and if the airmen were still unable to determine the identity of an aircraft, a call was made to a nearby Air Force Base. Within seconds, fighter planes "scrambled" to intercept the possible threat.

The scanners were all connected to a tremendous Plexiglas board, thirteen feet square, upon which was outlined the outlying area of surveillance. All of the aircraft which came within range were plotted on the screen from behind by someone writing backwards for easy observance by everyone in the room.

Even this equipment and manpower were unable to adequately protect the American coastline. The radar equipment was ineffective at spotting planes below 5000 feet, and so it was supplemented by ground observer stations.

8. Mill Valley

One of these radar stations was built at Mill Valley, California (MVAFS). The task of the 666th Squadron of the United States Air Force was to monitor the radar systems which tracked air movement in the area of Northern California. There was a real threat of Soviet nuclear attack on America's densely populated cities and the importance of their daily task should not be under estimated.

The Mill Valley station as part of this nationwide LASHUP system of early detection had a 200 mile visibility radius. Though the MVAFS and its sister stations were small, the Radar Squadrons played an important part in the national security system, especially the early warning systems. The Mill Valley Air Force Station was directly linked to the Nike missile sites in the area. One such site was located at Fort Barry, now also part of GGNRA (Golden Gate National Recreation Area). This was an Army administered site and Mill Valley Air Force Station had an Army Air Defense Command Post.

According to Ever Watchful, the 666th Radar Squadron overview publication of 1975, the mission of the squadron was threefold.[23] They were to provide reliable radar surveillance data to the 26th Air Division Direction Center. A second task at hand for the 666th was to provide target information to fighter aircraft under level V autonomous operation. Finally, the squadron was to maintain the equipment and facilities of the station at their optimum level of performance.

The 666th Radar Squadron was under the manual control system of operations from 1951 and was designated as a Master Direction Center. It had operational tactical control over three other Ground Radar Squadrons, two Navy picket ships, two Air Early Warning and Control Aircraft, sixteen Army Air Defense Artillery Nike-Ajax and Nike-Hercules units in the San Francisco-Travis Air Force Base complex.

[23] 666 Radar Squadron: Ever Watchful. Mill Valley AFS Ca, 1975.

In January 1961, the 666th Radar Squadron was integrated as a component of Semi-Automatic Ground Environment (SAGE). Their purpose was to feed initial target location data to the SAGE computer. At this time, the MVAFS was the headquarters for the San Francisco North American Defense (NORAD) Control Center, composed of both Army and Air Force personnel and equipment.

The following September, the squadron became host to the 40th Artillery Brigade Air Defense Command Post. The station was then equipped with Battery Integration and Radar Display Equipment (BIRDIE). They were also put in charge of the Nike-Hercules missile systems in the San Francisco-Travis AFB area. The target information which was gathered at MVAFS was processed and sent to the Nike-Hercules units. The 40th Artillery Brigade later became part of the 13th Artillery Group, Army Air Defense Command Post (AADCP).

By April of 1967, the 14th Missile Warning Squadron, Detachment 3 was also present at the MVAFS. At that time, installation of the AN/FSS-7 Sea Launched Ballistic Missile (SLBM) radar system took place.

In July of 1971, the 40th Artillery Brigade Air Defense Command Post was replaced by the 13th Artillery Group. In March of 1974, with the phase out of the Nike-Ajax and Nike-Hercules in the area, the 13th Artillery Group Air Defense Command Post was deactivated.

By 1975, the responsibilities of the 666th Squadron at MVAFS had been greatly reduced. However, the squadron was still responsible for supplying reliable radar surveillance data to the Air Defense System.[24]

Initially known to residents of the area as a "weather station," the base was the topic of a local newspaper article in December of 1953. The article described the tasks of those airmen who watched the radar screens. In the first minutes after an airman detected a suspicious aircraft he attempted to identify that aircraft. If after several minutes the aircraft remained unidentified then the Mill Valley airman contacted Hamilton AFB near Novato, California, north of San Francisco. United States Air Force jets were then "scrambled" by radio. As these aircraft took off, they made contact with MVAFS radar center and the airman stationed in front of the radar screen guided the Air Force aircraft to the location of the suspicious intruder. Approximately ten of these scrambles occurred each day costing tax payers $1,000 per scramble.[25]

Isolated on the top of Mount Tamalpais, the airmen had numerous activity centers at their disposal. They worked eight hour shifts, six-days a week, and spent most of their free time in comfortable barracks watching television, reporting the best reception in the county.[26] The base was furnished with a swimming pool, a bowling alley, tennis courts, and a theater for the airmen to occupy their free time.

With increasing advances in technology such as the completion in 1957 of the Distant Early Warning System (DEW line) in Canada and then subsequent

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[24]The above information concerning MVAFS was extracted from 666 Radar Squadron: Ever Watchful.

[25]"Wraps Lifted From Tam Radar Station." San Rafael Independent Journal. December 14, 1953.

[26]"Wraps Lifted From Tam Radar Station."

advances in satellite tracking and the early warning radar stations soon became obsolete. Another blow to the radar stations' usefulness was the development of the nuclear launch capability from offshore submarines. By the early 1980's most of the stations, including the Mill Valley site, were closed or re-designed to meet other needs. The Mill Valley Station was closed in January of 1983.[27] Such rapid advances in technology however, increases the significance of the remaining early warning radar systems. Documenting generations of technological advances made by the military is currently a much discussed topic.

MVAFS itself was one of the most important radar stations in the country: at every phase of its history- as a control station in the 1950's, as a SAGE combat division center from 1961 to 1963, as San Francisco Defense Area NORAD Control Center from 1961 to 1974, and as one of six SLBM radar stations from 1968 to 1980- it was one of the few radar stations to hold a position of leadership.

The chain of command for the 666th Radar Squadron changed several times during its more than 30-year stay at MVAFS. Each change was associated with a modification of the station's mission. From 1949 to February 1952, the squadron was part of the 542nd AC & Warning Group with the command at Hamilton, AFB. The following changes in command occurred after that point:

November 1950	23rd Air Division	
January 1952 - July 1960	28th Air Division	Hamilton, AFB[28]
July 1960 - August 1963	San Francisco ADS	Beale, AFB
August 1963 - April 1966	Portland ADS	Adair, AFB
April 1966 - Sept. 1969	26th Air Division	Adair, AFB
Sept. 1969 - Nov. 1969	27th Air Division	Luke, AFB
Nov. 1969 - March 1981	26th Air Division	Luke, AFB

9. Radar Technology at MVAFS

When MVAFS began operation in 1953, the PERMANENT radar system installation, which was common to at least 75 other stations, consisted of two radars — a search radar and one height finder radar. The search radar turned inside a "radome" or domed tower. The height finder was located outside. The search radar at that time may have been a CPS-5 radar in Building 409. This was replaced by an FPS-7 radar which remained in Building 409 until the FAA moved in, about 1982. At that time, an FPS-66A radar was installed. This is still in operation.

The first height-finder radar was an FPS-6 which was an outdoor radar located on the main terrace. In 1962, this was moved to a position outside the current gate, on the slope below the terrace. In this position, it was modified to an FPS-90 and back to an FPS-6. In 1961-1963, a second height-finder radar, an FPS-26, was installed in the new radome tower, Building 411. Until 1982, there were two height-finder radars at MVAFS, the FPS 6/90 outside the gate, and another one inside Building 411. In 1968, the FFS-7 radar for SLBMs was installed in

[27]Vertical File Marin County Civic Center Library. (Mount Tamalpais and Military File Names). Articles on MVAFS.

[28]Hamilton, AFB is located near Novato, California. Beale, AFB is located near Marysville, California. Luke, AFB is located near Phoenix, Arizona.

Building 411, and the FPS-26 was removed. In 1982, the FFS-7 was removed, and since that time, Building 411 has been empty.

10. List of Air Force Surveillance Stations on the West Coast of the United States[29]

State	Site #	Location	Squadron No.	Date Activated
CA	96	Almaden AFS	682	12-1-1953
CA		Beale AFB	666 Det 2	
CA	59	Boron AFS	750	11-27-1950
CA	2	Cambria AFS	775	
CA	39	Camp Cook	670	
CA	165	Flintstone AFS	867	
CA	1	Hamilton AFB	651	
CA		Hamilton AFB	667	
CA	158	Hamilton AFB	860	
CA	33	Klamath AFS	777	12-18-1950
CA	15	Lompoe AFS	669	
CA	74	Madera AFS	774	11-27-1950
CA	58	Mather AFB	666 Det 1	10-1951
CA	58	Mather AFB	668	
CA	38	Mill Valley AFS	666	11-27-1950
CA	76	Mount Laguna AFS	751	11-27-1950
CA	37	Point Arena AFS	776	12-18-1950
CA	157	Red Bluff AFS	859	11-8-1951
CA	39	San Pedro Hill AFS	670	
CA		Shafter Gap	750 Det 1	
WA	46	Blaine AFS	757	11-27-1950
WA	60	Colville AFS	760	
WA	6	Curlew AFS	638	
WA		Geiger Field	682	
WA		Geiger Field	821	
WA		Geiger Field	823	
WA	44	Makah AFS	758	11-27-1950
WA	1	McCord AFB	635	
WA		McCord AFB	636	
WA	151	Mica Peak AFS	823	2-1957
WA	57	Nascile AFS	759	11-27-1950
WA	40	Othello AFS	637	5-21-1947
WA		Silver Lake	634	

[29]This list was compiled from the research of Alvin Grobmeier. Grobmeier, Alvin H. "Air Force Surveillance Stations in Washington, Oregon, and California Radar Sites, Aircraft Control Stations and Warning/Radar Squadrons." Fort McArthur Alert. 7 (2): 16-18.

State	Site #	Location	Squadron No.	Date Activated
OR	149	Baker AFS	821	9-1957
OR	118	Burns AFS	634	6-20-1953
OR	32	Condon AFS	636	5-21-1947
OR	180	Keno AFS	827	9-8-1957
OR	100	Mount Hebo AFS	689	10-1-1953
OR	12	North Bend AFS	761	

Part II. ARCHITECTURAL INFORMATION

A. General Statement

The Mill Valley Air Force Station is comprised of over fifty buildings with functions ranging from living spaces to work places.[30] Up to 300 airmen were stationed on the 106 acre base at any one time.

1. Architectural Character:

   Constructed from standardized plans designed by the Chicago firm of Holabird, Root and Burgee for the forty five early radar stations around the country. Most of the buildings were wood frame structures covered with asbestos shingles. The majority of the buildings were covered with dark wood siding in the 1970's. This addition gave the buildings a distinctive Bay Area character and made them less obtrusive in the surrounding landscape. The architectural character of the site is marked by an external heating system with above ground pipes feeding into each building.

2. Condition of Fabric:

   Today, the buildings of the cantonment area (an encampment, barracks area or temporary quarters for troops) have been severely altered by weather and vandalism. Several of the buildings at the station have been demolished. Those that remain are heavily laden with asbestos and have been declared unsafe. The buildings in the operations area have either been transferred to the FAA or have been demolished or moved.

B. Description of Exteriors:

Most of the buildings in the complex have dark horizontal wood siding which replaced the original asbestos siding. The planks are set flush against one another and have beveled edges. Typical buildings have a hip roof with an overhang and composition roofing material. The main part of the base, the western section, has an overall unified architectural character. The work area, on the eastern ridge of the site, consisted of several concrete block buildings and numerous radar towers. The following discussion of the buildings is divided into two sections: The Cantonment Area and the Operations Area.

1. Cantonment Area

The cantonment area is the larger of the two parts of the base, but is the least conspicuous from a distance. This portion of the MVAFS consists of facilities originally built for housing, administration, dining, heating, recreation, and property maintenance.

[30] Illustrations, building plans of some building types and several site plans are located at the end of the written report.

The buildings and features of the cantonment area are placed singly and in groups on various terraces at various elevations along the curvilinear road. At some terraces, the arrangement of buildings and other features is strictly functional; at others it is formal. At the center of the cantonment area, the arrangement of buildings and features is formal and is on three different terrace levels. This section of the station includes five barracks, the administration building, and the mess hall, all of which are oriented in a northeast-southwest alignment, in parallel rows in a regular grid-like plan.

Although built at different levels on the hill, the group is visually unified by the plan. In fact, the different levels produce a dramatic yet orderly composition of parts, which would not exist on a flat site. This is the largest group of buildings in the cantonment area and it is the most publicly visible part of the area, easily viewed from Ridgecrest Road. Unlike other parts of the cantonment area, which are primarily oriented to automobile use, the buildings of this group are oriented to pedestrians. The buildings are linked by a grid of sidewalks with steps and railings.

Other clusters of facilities in the cantonment area are Buildings 222 and 223 around a parking lot southwest of the mess hall; Buildings 101-105 around a parking lot west of Building 223; Buildings 600-608 southeast of the main barracks-administration group; and the swimming pool group at the east end of the cantonment area. Among these, the largest and most prominent is the group of nine single-family houses for married airmen along a branch road with a cul-de-sac. These houses are situated on the slope below the central part of the cantonment area. The planning of this group is similar to non-military suburban housing developments of the period throughout California. These groups and the remaining individual features of the cantonment area are strung together by the road and by the system of exterior overhead steam pipes which originate in the heating plant (Building 102). Altogether, the various facilities and groups of facilities of the cantonment area are a string of separate elements related more by the constraints of topography than by any formal planning ideas.

Most of the buildings and facilities of the cantonment area are of wood-frame construction, four are of reinforced concrete or concrete block, and two are of metal. Not only in number, but in the size of individual buildings and in prominence, the area is characterized architecturally by its wood buildings. Most of the buildings were built either when MVAFS was established in 1950-1951, or when 9 units of married housing were built in 1960-1961. In the earlier group, most were two-story wood-frame buildings with hipped roofs, broad overhanging eaves, and long pent roofs that functioned as sunshades over ground floor windows. These buildings were clad in transite panels probably painted a light green color. (Similar buildings were so painted at Klamath Air Force Base, which was designed to the same

standard plans.)[31] Windows were regularly spaced, and entrances in many cases were set in vestibules which projected beyond the main wall of the building. All of the wood-frame buildings were treated consistently and formed a visually unified complex. The light green color of the transite panels would have harmonized with the exposed dark green serpentine rock on the site.

In 1977, as part of a project to improve these buildings by placing insulating material in the walls, the transite panels were removed and replaced by new exterior redwood siding.[32] Close inspection reveals that the new siding was carefully designed. The redwood planks are set flush against each other, instead of overlapping. The edges of the planks are beveled, so that where the planks meet they form a v-shaped notch. The same planking material was used to create frames for the windows and doorways, and it appears the original proportions of the windows and doors were preserved when the siding was altered. The overall effect, then, is simultaneously rustic and modern: a complex of closely grouped buildings with shallow-pitched, overhanging, hipped roofs; with consistently proportioned, regularly spaced windows; and all buildings covered with horizontal, beveled wood siding.

Although this change was executed with care, producing buildings which not only receded more unobtrusively into the landscape, but also took on the familiar appearance of the Bay Region modernist architecture of William Wurster and others, there is no documentary evidence that this was intentional.

The majority of the foundations of the larger buildings consist of reinforced concrete perimeters, with reinforced concrete footings within the perimeters. A heavy wooden beam rests on the concrete footings, and floor joists, in turn, rest on the foundation perimeter and the wooden beam. (The smaller buildings rest on concrete slabs.)

The roofs are covered with a green composition roofing material, and the eaves are covered with light-colored plywood with sheet metal fascia. Nearly all of the original windows were replaced with modern aluminum sash in 1967-1968.[33] Original windows were either casement windows of unknown material, or double hung windows, in some cases of industrial steel sash.

Most entrances consisted of a sort of wood-frame vestibule which projected beyond the main wall of the building. Over the years, most of these vestibules were replaced with projecting entries of concrete blocks. Such original entrances as survived into the 1970s were covered in redwood when the original transite siding was removed.

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[31]Chappell, Klamath AFS Determination of Eligibility Form.

[32]Doug Bush. This current FAA employee began work at MVAFS for the AF in 1976. He remembers that this project was done inexpensively during the summer by a group that may have been the California International Air Guard, the AF Reserves, or "Tiger Team."

[33]666th Radar Squadron 1961-70 March, 1968.

Most of the doors are latched metal doors of uncertain vintage. There are concrete stoops, and concrete steps with steel edges.

Both the interior walls and the ceilings are made of plaster or gypsum wall board material. The ceiling boards are nailed directly to the ceiling joists. Most flooring is linoleum squares, although red carpeting was applied in some places, probably at a later date. The interior doors have simple wood frames. The interiors of most of the wood-frame buildings are in a extremely dilapidated state.

The principal alterations to the cantonment area are the replacement of transite panels by redwood siding on the central wood buildings of the group, and the demolition of several structures. The demolition of several buildings, notably , the exchange (206), and the multipurpose building (216), occurred after MVAFS had closed and after the period of significance. The theater (203) has been partially demolished. The loss of these buildings compromises but does not destroy the integrity of design, workmanship, materials, and association of the group.

2. Radar Operation Area

The operations area is the smaller of the two parts of the station, but it is the most visible from a distance. The white, spherical domes or "radomes" of the two radar towers can be seen for many miles over a wide area and were the heart and soul of the station.[34] The Radomes were the means of detecting a military threat aimed at the west coast. Adjacent to the radome towers is the original Operations Building where Air Force personnel staffed the radar scanners 24 hours a day, in search of such threats, and the Operations Building Annex, added to accommodate automation of the system. These structures are currently administered by the FAA as a Joint Use Site (JUS) for purposes of monitoring domestic air flights, as well as playing a diminished military surveillance function.

In addition to these four structures, three other buildings remain today from the original radar station, all identified by facility numbers. There is also a helipad built by the FAA after the Air Force station closed. Numerous features have been demolished, mostly of secondary importance both visually and functionally. The most conspicuous of these were several steel radio towers and the exterior overhead steam line system.

In plan, the operations area is much simpler and more compact than the cantonment area. The two domed radar towers, and the operations building and its annex are all close together on the principal terrace of the operations area, enclosed by a chain link fence.

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[34]A painting of a pair of radomes is used on the cover of The Emerging Shield, the history of the Cold War air defense published by the Office of Air Force History. The use of this painting represents the symbolic importance of these structures in the context of Cold War air defense.

A pair of water tanks is located just below the principal terrace at its southwest corner within a second chain link fence; the radio building is located southwest of the tanks within a separately fenced and administered area; and the gatehouse is located on the road leading back to the cantonment. Except for the facilities on the principal terrace, each of these is sited according to topographical constraints. Most of the facilities on the principal terrace were originally built with a near north-south orientation, each oriented to the others along parallel axes or cross-axes. When the second domed tower was built, it was oriented diagonally to the original buildings.

The principal buildings of the operations area are of fire proof construction. The two radar towers are built with steel frames, the operations building, its annex, and the radio building are all reinforced concrete buildings. The electronic radar and radio equipment which these buildings housed has been almost completely replaced since the period of significance. Only one radar scope, from the original circa 1953 system, an AN GPA-127 Planned Position Indicator (PPI), built by the Bendix Corporation, remains.

The principal alterations to the operations area are the demolition of several buildings and structures and the removal of nearly all significant electronic equipment used in the principal mission of the station. Most of the buildings and structures which have been demolished or removed had a supportive rather than primary relation to the mission of the station. The loss of fuel tanks, a pump house, a heating plant and overhead steam lines, a supply building, a laboratory, and a training building all diminish the integrity of design, materials, workmanship, and association in a minor way. More important was the removal of several 90-foot-high radio towers which had a direct relation to one aspect of the station's mission, radio communication with friendly aircraft sent to check on unidentified aircraft. This change has a more serious effect on integrity of design, materials, workmanship, feeling, and association. Most important of all is the removal of the principal electronic equipment from the radomes and operations buildings used in performance of the station's mission. Only the one radar scope mentioned above, currently broken, is left in the operations building from the period of significance. The radar scope is approximately two feet wide and three feet tall.

C. Individual Building Descriptions[35]

Cantonment Area

Building 101:

Paint locker and lubricant storage: A small concrete block shed, this building served as a storage space for paint and other flammable materials. Measuring 20 feet long and 15 feet wide, the building sits on a concrete slab.[36] There is a gable roof over the single story building and no windows. The side gable roof has a projection beyond the front of the building forming a small porch area. The building is utilitarian in purpose and appearance. The building is divided into two rooms. The southern room has shelves for storing paint and the northern room is about 4 feet by 4 feet with no shelves.

Building 102:

Heating plant: Built of concrete block this small, almost square building, housed the heating system for the base. It measures 35 feet long by 30 feet wide, has a slab foundation and a flat roof. Windows mark the east elevation where the pipes enter the building. Two doors, one on the north elevation and one on the south elevation of the building, allow entry into the building.

Exterior overhead steam lines: A steam line system ran from the heating plant in Building 102 to other buildings to provide heat. A system of insulated steam pipes, instead of being buried underground, was elevated to a height of nine or ten feet and supported by square wooden posts. This system of silver-colored pipes runs through most of the complex. The square, wooden support posts were replaced by cylindrical metal poles when the system was rebuilt in 1963.

The interior of this building contains two large Kewanee Firebox Boilers (cast iron furnaces.) The heating system consisted of elevated pipes linking the various buildings at the station with this central steam producing building. Though a single story building the interior ceiling height is high, rising approximately twenty feet. There is one industrial steel sash window on the south wall.

Building 103:

Civil Engineering maintenance shop: 60 feet by 30 feet, this is a one story wood frame building with a shallow pitch hipped roof. It has a concrete slab foundation and contains original casement windows. An

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[35]Building dates are given only if there is specific documentation for their construction dates. For the majority of the buildings there is no specific date. Construction was begun at the site in 1950 (see footnote number 1). Modifications to the buildings were ongoing throughout the history of the site. Major modifications, such as the replacement of the asbestos shingles with wood siding, are noted when information about such modifications was available (see pages 12-13). Buildings that were demolished are noted within the text and were therefore not photographed. When buildings were inaccessible for photography it is noted within the text or description of the building.

[36]All measurements for buildings in this report are approximations and were taken from an Engineering Plan dated January 12, 1972. This plan is reproduced in reduced form at the end of this report.

interior office of this building has a paneled wall that appears to be original. The windows are the original casement with steel sash. The doors of this building are paneled.

Building 104:
Garage and motor repair shop--hobby shop: The garage is constructed of wood framing over a concrete slab foundation and is 60 feet long by 30 feet wide. The building has dark wood siding with a flat truss roof. Numerous steel windows mark the south elevation with roll up metal garage doors on the north elevation. Several garage doors open into a large garage space. There is an office on the west side of the building.

Building 105:
Civil Engineering storage: This small, 20 foot by 20 foot, gable roofed building, with a garage door housed the Civil Engineering Storage. The building is one story over a concrete slab foundation with structural wood framing. There are no windows and a roll up metal garage door marks the east elevation. There is an entry just to the south of the garage door. The interior space of this building consists of one small room.

Building 106:
Bowling alley: Constructed in 1963, this concrete block structure housed the base entertainment center. It is 35 feet long and 15 feet wide. A two lane bowling alley with seating and score board occupied one half of the building. It is uncertain what activities took place in the other half of the building. However, the function may relate to the fact that as late as October 1983, both the California Highway Patrol and the State Park Service were using antennae located on top of this building.

The interior of this building is divided into two spaces. A two lane bowling alley with seating area and scoring table occupied one side of the building. The function of the other space in the building is unclear at this time.

Building 107:
Motorcycle hobby shop: This small concrete block building is 30 feet long and 25 feet wide. This building has a single interior space.

Building 184:
Pump station and fire pump storage: This small station offered fire protection to the station. This was not photographed.

Building 201:
Bachelor airmen quarters: These quarters are located to the north of the group of the four other bachelor quarters. The exterior appearance of building 201 is similar to buildings 208, 210, 212 and 214 described above. It has the same measurements as the other four quarters of rectangular plan, 90 feet long by 30 feet wide. This building has been heavily damaged by weather and vandalism. The building is similar in plan to buildings 208, 210, 121, 214.

Building 202:
Administrative building: Also clad with dark wood siding, this building was the administrative center for the station. A relatively small building for an administrative headquarters, it is 50 feet long by 20 feet wide. The south elevation has six bays. This scheme is repeated on the opposite north elevation. Entry to the building is gained via several steps and a porch. The building has a hip roof with an overhang and is wood frame in structure. This building has been heavily damaged by weather and vandalism.

The interior of this building is divided into one large room and four smaller rooms with two rest rooms. The main administration room measures approximately 13 feet by 32 fect.

Building 203:
Theater: Originally, a one story building also clad with the dark horizontal wood siding, all that remains of this building is the shell of the wood frame, the floor and some window frames. The dimensions of the building were 50 feet long and 25 feet wide. The building had a concrete perimeter foundation. Only the shell of this structure remains, however visible in the southern corner is a small, slightly elevated stage.

Building 204:
Bachelor Airmen Quarters: This two story residence hall has a similar exterior to buildings 208, 210, 212, and 214, however in plan it is u-shaped instead of rectangular. It has an enclosed concrete porch at the entry. The use of the hip roof is repeated here as well as the overhang at both stories. This building has been heavily damaged by weather and vandalism.

The plan of this building is similar to Buildings 208, 210, 212, and 214, however it is of a u-shape plan. The two wings project westward from the main part of the building. With individual rooms on two floors, the layout is similar to the other group of quarters with a central hallway and individual rooms off to either side. On the second floor, there is a recreation room with a curved bar.

Building 206:
Exchange: Intended to serve as the Post store, this building has been demolished. The concrete foundation is still visible and measures approximately 75 feet long by 20 feet wide.[37] No existing interior finishes remain.

Buildings 208, 210, 212, 214:
Bachelor Airmen Quarters: These rectangular, two story residence halls are wood frame structures covered with dark horizontal wood

[37]With permission of the GGNRA, this building was partially demolished in 1987. Volunteers from the Tamalpais Conservation Club and from Sierra Club Bay Chapter started demolition work at the base. Their work was stopped after the destruction of four buildings at the MVAFS because of the discovery of asbestos in many of the buildings. Marin Independent Journal. February 10, 1987.

siding. Each building is approximately 90 feet long and 30 feet wide. The buildings have perimeter reinforced concrete masonry foundations with small crawl spaces at both the basement and attic levels. There are eleven bays on the eastern and western elevations of the buildings. The north and south elevations are of three bays. Entries are marked by simple concrete enclosed porches. The hip roofs are accented by a generous overhang. The division between the first and second story is also marked by an overhang. This overhang is not continuous around the building, but exists only on the eastern and western facades. These buildings have been heavily damaged by weather and vandalism.

These two story buildings basically have the same configuration on the first and second levels. In plan, the buildings are comprised of a long central hallway which accesses the airmen's individual quarters. The dorm like plan is composed of 18 individual rooms on the first level. The first floor also has a TV room which appears to have been added after construction. The second floor also has 18 individual rooms. Each floor has a utility room and large bathroom. In each room the HVAC vents are located under the windows. Most of the rooms have built in closets and dressers. The stairs to second floor are concrete and each stair hall is lighted by windows.

Building 216:

Multi-purpose building: Of this building all that remains is the concrete foundation. The dimensions of the building measure 90 feet long and 30 feet wide. These are the measurements of many of the bachelor airmen quarters constructed at MVAFS. This building was torn down in 1982 apparently because of damage from severe weather.[38] Built originally as a barracks, the function of the building changed in 1962 to a multi-purpose building housing a library, a gymnasium, and drafting and hobby shops.

Building 218:

Consolidated open mess: This building is 75 feet long and 25 feet wide and is composed of one story. It has a hip roof with an overhang and is clad with the dark wood siding typical throughout the base. The structural system is wood framing over a concrete slab foundation. This building has been heavily damaged by weather and vandalism.

The interior consists principally of one large room. Along the long east wall there are several small windows which offer magnificent views of San Francisco and the Bay. There is a raised stage floor near the north east end of the building. There is a bar at the south west end of the building.

Building 220:

Mess hall: Consisting of one story, this building has a T shape plan. The northern section of the T measures 80 feet by 30 feet and the southern part of the building measures 50 feet by 25 feet. It has the typical dark wood horizontal siding with a hip roof and overhang.

[38]Chappell. Item 8, Number 3. Project demolition order dated May 6, 1982.

There is a reinforced concrete perimeter foundation and wood frame construction. The windows are double hung and made of aluminum. This building has been heavily damaged by weather and vandalism.

This building has a T-shape plan and double hung aluminum windows light the large cafeteria like space. A patriotic Liberty bell painting is noticeable on one wall. Kitchen appears to have been remodeled in the 1970's.

Building 221:
Cold storage: This building is no longer standing.

Building 222:
Supply and Administration building: This one story building is 60 feet long by 20 fect wide. It has a perimeter reinforced concrete foundation and the structural system is wood frame. Dark wood siding and an aluminum roll up garage door mark the west elevation. The building has casement aluminum windows. The interior contains several small offices and a large entrance room. There is a half story shed on the north side of the building.

Building 223:
Base Civil Engineering administration CV storage[39]: This one story building is 50 feet long by 30 feet wide. It has a perimeter reinforced concrete foundation and a structural system of wood framing. The building has a hip roof with an overhang and dark wood siding. The interior contains two small offices.

Building 224:
Physical conditioning center: This building is no longer standing, but according to a site map, it measured approximately 40 feet long by 30 feet wide.

Building 302:
Gatehouse: Only a small portion of this building remains. This was the initial guard building at the station.

Building 304:
Sewage: A metal tank.

Building 305:
Storage: A metal storage shed with storage tank located near the pool. No interior access.

Building 306:
Explosive storage: A small metal shed located next to the tennis court. No interior access.

[39]The meaning of the acronym CV is unclear.

Building 307:
Pool building: A small wood frame building with a hip roof and the wood siding typical throughout the base. The building contains bathrooms, a changing area, and a check-in stand.

Building 308:
Pool: A concrete sunken pool. The pool was repainted and tiled in 1963.[40]

Building 436:
Tennis court: A single, fenced tennis court. The tennis court was resurfaced in 1963.[41]

Buildings 600-608:
Military family housing: Likely built in the late 1960's, this group of buildings was the residence for those on post who had families. These single story residences are approximately 50 feet long by 25 feet wide. These wood frame buildings are clad with aluminum siding such that the character of this group of buildings is much different from the others on base. The buildings have a low pitched roof with a small porch of 5 feet by 10 feet at the eastern entrance. Each building has basically the same plan, including two small bedrooms, a small kitchen, one bath and a small living room.

Building 620:
Sewage Ejector: This was a small metal storage shed that held the sewage facilities.

Building 794:
High Lift Pumping Station: This was not surveyed or photographed because it was inaccessible. It is assumed this was some sort of water pumping station.

Operations Area:

Building 184:
Pump station and tanks. Originally located next to buildings 414 and 411. It was demolished. The tanks remain.

Building 400:
Gatehouse. This is a small wood frame structure. This gate house is no longer used and is vacant. This is a small guardhouse big enough for one airman on duty to check identification of visiting vehicles.

Building 402:
Civil Engineering Storage: One story, rectangular, reinforced concrete building measuring about 20 x 50 feet. Now occupied by California Highway Patrol and other local law enforcement agencies for radio communications. A cluster of 90 foot steel radio towers nearby have

[40] 666th Radar Squadron, June 1963.
[41] 666th Radar Squadron, June 1963.

been removed except for their bases. There is no interior access. The building is occupied by California Highway Patrol and other local law enforcement agencies for radio communications.

Building 403:
Training building: Portable structure moved off site.

Building 404:
Unknown.

Building 405:
Supply building. Demolished 1994.

Building 406:
Central Heating Station Demolished date unknown.

Building 407:
Height Finder Radar. Moved and Replaced.

Building 408:
Operations Building. One story reinforced concrete building irregular in shape, measuring about 60 x 140 feet. The main room of this building once had a transparent screen on which were plotted the locations of the unknown aircraft spotted on radar scopes in front of the screen. This was viewed from a loft at one end of the room. Interior has been remodeled. Only one original radar scope remains in this building.

Building 409:
Radar Dome (search tower) circa 1951. 35 foot diameter, white, spherical dome on four-level square tower clad in corrugated steel. Rubber and nylon skin on metal frame enclose tuming reflector. Original radar equipment replaced about 1982. This is still a working radar and for safety reasons it was not photographed on the interior.

Building 410:
Generator Building: Demolished 1980

Building 411:
Radar Dome (height finder tower). Built in 1961 for FPS-26 height finder radar. Spherical dome made from small, triangular, fiberglass panels attached to metal frame. Dome sits on three-level square tower clad in corrugated steel. Interior airlock remains from original inflatable dome. Interior now empty. Dome scheduled to be rebuilt slightly larger for new Air Route Surveillance Radar (ARSR) 4 equipment. Interior now empty. Dome scheduled to be rebuilt slightly larger for new ARSR 4 equipment.

Building 413:
Precision Measuring Equipment Field laboratory. Demolished before 1976.

Building 414:
Two water tanks. Two metal cylindrical water tanks; pump house formerly adjacent has been demolished.

D. Site:

1. General Setting and orientation:

The site is adjacent to Mount Tamalpais State Park. Mount Tamalpais is the highest peak in the San Francisco Bay Area. Wide ranging views back to the city of San Francisco, out to the Pacific Ocean, and of Marin County are visible from the vacant Air Station. Bordered by State Park lands, the area is frequented by recreational hikers and bikers.

Approximately 20 acres of the top of the peak was leveled by the Air Force for construction of the station. The natural waste materials of this leveling process were thrown down slope and are still noticeable. The immediate slopes below the Air Force Station are sparse, steep and rocky. Beyond the immediate area, further down the slope of the peak, the vegetation increases both in density and in diversity. Deer and other wildlife occupy the area.

The Radar Station is divided into two areas. On the west peak of Mount Tamalpais the Air Force built the living and recreational quarters for the airmen while the east peak area houses the radar working station. It appears that the Air Force made some attempt at landscaping the site. Several stone walls are still visible. Concrete stairs, because of the steep nature of the site, and sidewalks linked the buildings.

2. Historic Landscape design:

Since the Gold Rush and even before, Mount Tamalpais has been a recreational area. A railroad line, which opened in 1896 and ran until 1930, carried curious visitors to the top of the peak to take in the views. A tradition started in the 1890's in which individuals hiked up to the peak to see the sunrise on Washington's birthday. During the 1930's and 40's, visitors came up to Mount Tamalpais for theater events and to view the construction of the Golden Gate Bridge. Thus, the peak had a long history as a gathering place for local adventurers.[42]

With the building of the MVAFS, the United States military became part of the story of Mount Tamalpais. Though to some the station may seem an intrusion into the historic fabric of the natural landscape, there was a very real necessity for the construction of a national radar system at the height of the Cold War.

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[42]Robertson, David. "Mt. Tamalpais: The Legendary Birth of a Holy Mountain." California History. 70 (1991): 146-161.

Part III. SOURCES OF INFORMATION

A. Original Architectural Drawings

Several site plans are housed in the offices of the Golden Gate National Recreation Area, National Park Service.[43] Several plans are located at the FAA Radar Station now operating on Mount Tamalpais. Individual building plans and construction records have not been recovered. It is possible that the building plans for the Air Force Stations built during the same period as Mill Valley may be helpful to this study. Historians at Redwood National Park were contacted in relation to Klamath Air Force Station now under the jurisdiction of that park. There is archived material, including site and individual building plans for Klamath Air Force Station.

B. Early Views

Only a few historic photographs have been located. These photographs were in local newspapers dating from the 1950's to the 1980's. Several photos were located at the Marin Historical Society. It is possible that the Smithsonian Institution may hold several photos of the site as they are in possession of the Air Force collection of historic photographs.

C. Interviews

Beck, Fred, Office of AF History. Conversation with Bill Kostura, November 1994.

Binder, Mike, military historian. Conversations with Michael Corbett, December 22, 1994 and January 26, 1995.

Bush, Doug, FAA. Site tour of FAA facility with Bridget Maley and Michael Corbett January 11, 1995. Conversations with Michael Corbett and Bill Kostura, December 1994 and January 1995.

Chappell, Gordon. Conversations with Michael Corbett, November 1994.

Haller, Steve, NPS. Conversations with Michael Corbett and Bridget Maley, November, 1994 - March, 1995.

Lonnquest, John, CERL researcher. Conversations with Michael Corbett, November 1994 to January 1995.

Morgan, Mark, NPS. Conversation with Michael Corbett, December 22, 1994.

Temme, Virge, CERL. Conversation with Bill Kostura, November 1994.

[43]These plans are reproduced at the end of this report.

D. Bibliography

Primary Sources

Marin County Civic Center Library, Vertical Files Collection.

Office of Air Force History, Washington, D.C.

United States Air Force Research Center, Maxwell AFB Alabama.

United States National Archives, Washington, D.C.

Secondary

Advisory Council on Historic Preservation. Balancing Historic Preservation Needs with the Operation of Highly Technical or Scientific Facilities. Washington, DC: 1991.

"Air Force Concedes Where Tam Is." San Francisco Chronicle. December 14, 1953.

Air Force Real Estate Agency, 1973. "Mill Valley Air Force Station," Executive Order Survey Report.

"Air Force Tells Secret of Tamalpais Radar Base." San Francisco Chronicle. December 14, 1953.

"The Big Bubble Rises Again." Marin Independent Journal. June 25, 1982, 1.

Binder, Mike and Mark Morgan. Nike Quick Look III. Fort Worth: Aeromk, June, 1990.

Boyer, Paul. By the Bombs Early Light. Pantheon Books: New York, 1985.

Center for Air Force History. Coming in from the Cold: Military Heritage in the Cold War. Department of Defense Legacy Cold War Project, June, 1994.

Chappell, Gordon. National Park Service. National Register of Historic Places Nomination for Klamath Air Force Station. March, 1985.

Corbett, Michael R. Architectural Study of Beale Air Force Base, Yuba County, California: A Preliminary Survey and Historical Overview of World War II and Cold War Era Properties. Chico, California: Prepared by Dames & Moore for the U.S. Air Force, May 1994.

"Disarmament Subcommittee Taking Down Air Force Buildings on Mount Tam." Sierra Club Yodeler, March, 1987.

Doss, Margot Patterson. "Bay Area at Your Feet." San Francisco Examiner. November 27, 1993.

Environmental Assessment of Alternatives for Use of the Mill Valley Air Force Site. National Park Service, Golden Gate National Recreation Area, 1983.

Ever Watchful: 666 Radar Squadron. Mill Valley AFS, CA 1975.

Federal Writers Project. Marin County, vol Marin, Clippings re: 1905 radio towers on West Peak of Mount Tamalpais, n.d.

Gaddis, John Lewis. The Long Peace, Inquires into the History of the Cold War. Oxford University Press: New York, 1987.

Gaddis, John Lewis. The United States and the Origins of the Cold War: 1941-1947. New York: Columbia University Press, 1972.

Goldman, Eric. The Crucial Decade-and After, America 1845-1960. New York: Vintage Books, 1960.

Grobmeier, Alvin H. "Air Force Surveillance Stations in Washington, Oregon, and California Radar Sites, Aircraft Control Stations and Warning/Radar Squadrons." Fort McArthur Alert. 7 (2): 16-18.

Guldenzopf, David B. "Applying the National Historic Preservation Act to the Defense Environmental Restoration Program." Federal Facilities Environmental Journal. Autumn 1993.

Hagwood, Joseph Jeramiah Jr. Engineers at the Golden Gate. United States Army Corps of Engineers. 1980.

Halberstam, David. The Fifties. Villard Books, New York, 1993.

Herken, Gregg. The Winning Weapon: The Atomic Bomb in the Cold War: 1945-1950. Alfred A. Knopf: New York, 1980.

Levine, Herbert M. World Politics Debated: A Reader in Contemporary Issues. McGraw-Hill: New York, 1986.

"Love of Mount Tam." Marin Independent Journal. February 10, 1987, 3.

Marin Independent Journal. Marin Magazine Insert. Untitled Essay on Nike Missle bases. January 14, 1967: M11.

Marin Independent Journal. Marin Magazine Insert. Untitled Photographic Essay, March 19, 1955: M13.

Marin Independent Journal. Untitled Article. January 4, 1984, 1.

Marin Independent Journal. Untitled Article. January 25, 1984, 1.

Marin Independent Journal. Untitled Article. February 23, 1984, 1.

"Mixed Emotions Mark Mill Valley Radar Site Closing." Marin Independent Journal, May 6, 1978, 1.

"Mount Tamalpais Eyesore Bureaucratic Legacy." San Francisco Chronicle. May 31, 1993.

McDougall, Walter. ...The Heavens and the Earth: A Political History of the Space Age. Basic Books: New York, 1985.

McNamara, Robert S. Blundering into Disaster: Surviving the First Century of the Nuclear Age. Pantheon Books: New York, 1985.

National Archives and Records Administration. "Mill Valley Air Force Station." construction records identified by accession number 077-66A-3183, records center location number 08-34-09-1-1, (1952-1962).

National Park Service, GGNRA. Environmental Assessment: Alternatives for Use of the Mill Valley Air Force Site, November 1, 1983.

National Park Service, US Department of the Interior. National Register Bulletin 30. Guidelines for Evaluating and Documenting Rural Historic Landscapes. n.d.

Newhouse, John. War and Peace in the Nuclear Age. Alfred A. Knopf, New York: 1989.

Office of Air Force History. Mill Valley Air Force Station. abstracts of documents accessible on microfilm, indexed in computer under Mill Valley. March 1, 1947 to June 30, 1981.

"Radar Station Evaluated." Marin Independent Journal. April 10, 1979, 12.

Robertson, David. "Mt. Tamalpais: The Legendary Birth of a Holy Mountain." California History. (70): 1991, 146-161.

Schaffel, Kenneth. The Emerging Shield: The Air Force and the Evolution of Continental Air Defense: 1945-60. Office of Air Force History: United States Air Force Washington, D.C. 1991.

"The Sleeping Maiden Never Sleeps," Mount Tamalpais Coastal Post. September 12, 1988.

Skolnick, Sharon, 1989. Dreams of Tamalpais. Last Gasp Press, San Francisco, 1989.

666th Radar Squadron. Mill Valley Air Force Station Quarterly Report/Newsletter. microfilm copy at Bolling AFB, Washington, DC 1961-1970.

"Tam Site Has Had Busier Days." Marin Independent Journal. March 2, 1984.

Toogood, Anna Coxe. A Civil History of Golden Gate National Recreation Area and Point Reyes National Seashore: Volume 1. National Park Service. 1980, 314.

United States Army Corps of Engineers. "Dr. Strangeresource or: How I Stopped Worrying and Learned to Assess the Cold War." December 16, 1993.

United States Army Corps of Engineers. Sacramento, District. "Mill Valley Air Force Station (Z-38)", Plan provided by AF Real Estate Agency including Tract Register of Acquisition. Prepared February 18, 1957. revised April 29, 1970.

"Wraps Lifted From Tam Radar Station." San Rafael Independent Journal December 14, 1953.

Zimmerman, Joy. "What's Up on Tam." Pacific Sun. October 14-20, 1983, 3.

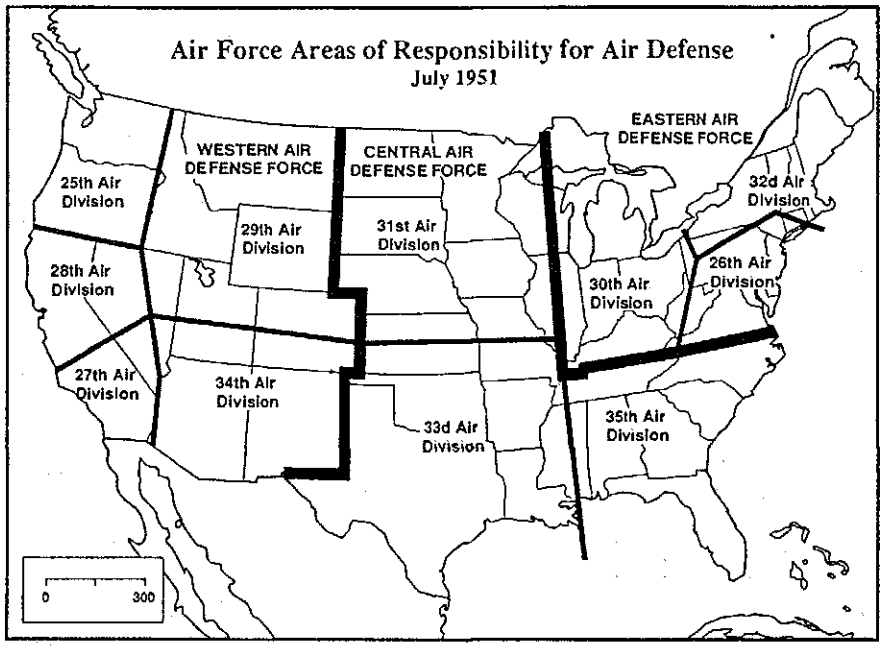
E. Likely Sources not yet Investigated:

National Air and Space Museum, Smithsonian--There may exist within the holdings of the Air and Space Museum's Air Force Historic Photograph Collection photos of MVAFS.

Part IV. PROJECT INFORMATION

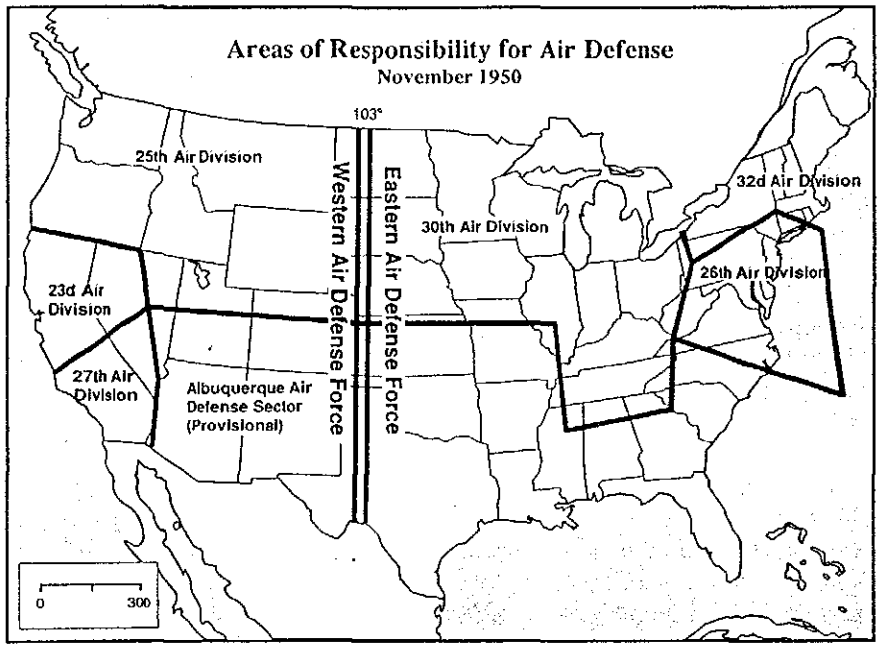
Architectural Resources Group was contracted by the National Park Service (contract number 1443-CX-2000-93-014 task order 32) to prepare this HABS documentation. Stephen Farneth, AIA was the Partner-in-Charge; Bruce D. Judd, FAIA was the Project Photographer; and Bridget Maley prepared the Historical Documentation in conjunction with Michael Corbett of Dames and Moore, Inc. who prepared the Determination of Eligibility for the National Register of Historic Places. A considerable amount of the information in this report was derived from the Determination of Eligibility for the National Register of Historic Places.

Figure 1.
Air Defense[44]
From The Emerging Shield.



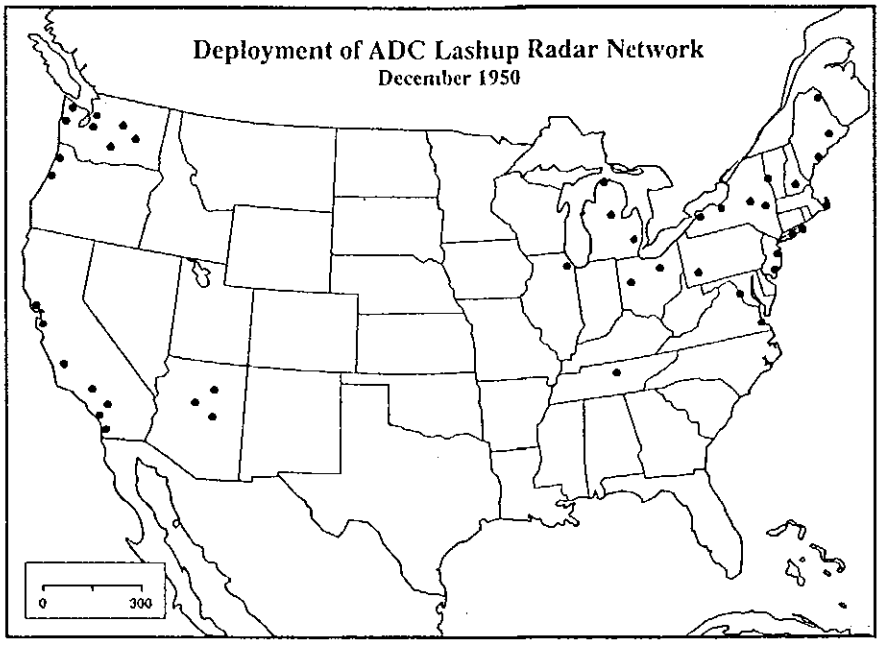
[44]Reproduced from The Emerging Shield page 146. This map is representative of the United States Radar System just prior to the establishment of the Mill Valley Radar Station.

Figure 2.
Air Defense[45]
From The Emerging Shield.



[45]Reproduced from The Emerging Shied page 139. The Air Divisions represented in this graphic are from 1950.

Figure 3.
Lashup Radar Network[46]
From The Emerging Shield.

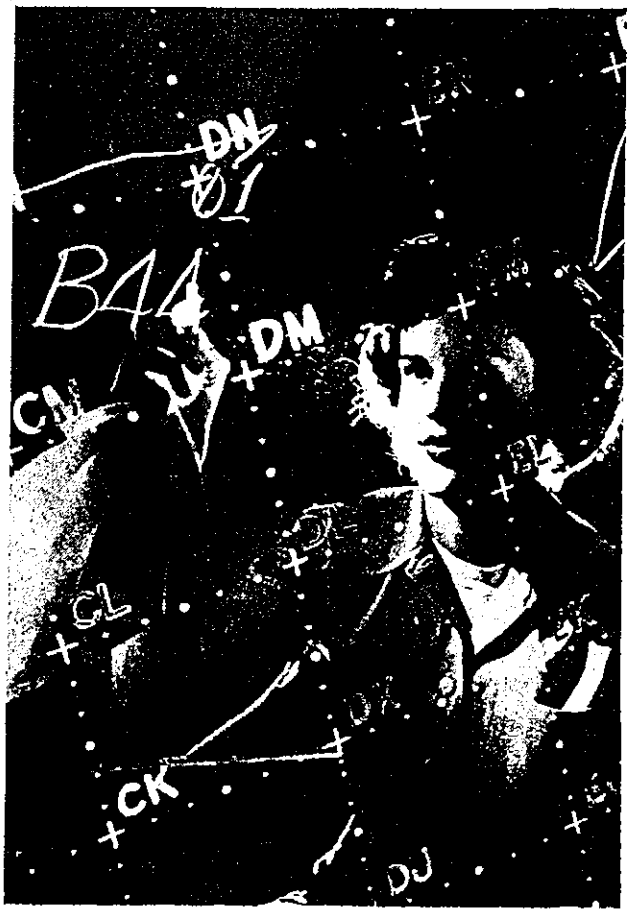


[46]Reproduced from The Emerging Shield page 93. This map is representative of the Lashup system shortly before the opening of the MVAFS.

Figure 4.
Airmen working at Radar Scopes, MVAFS[47]
From " Air Force Tells Secrets of Tamalpais Radar Base."

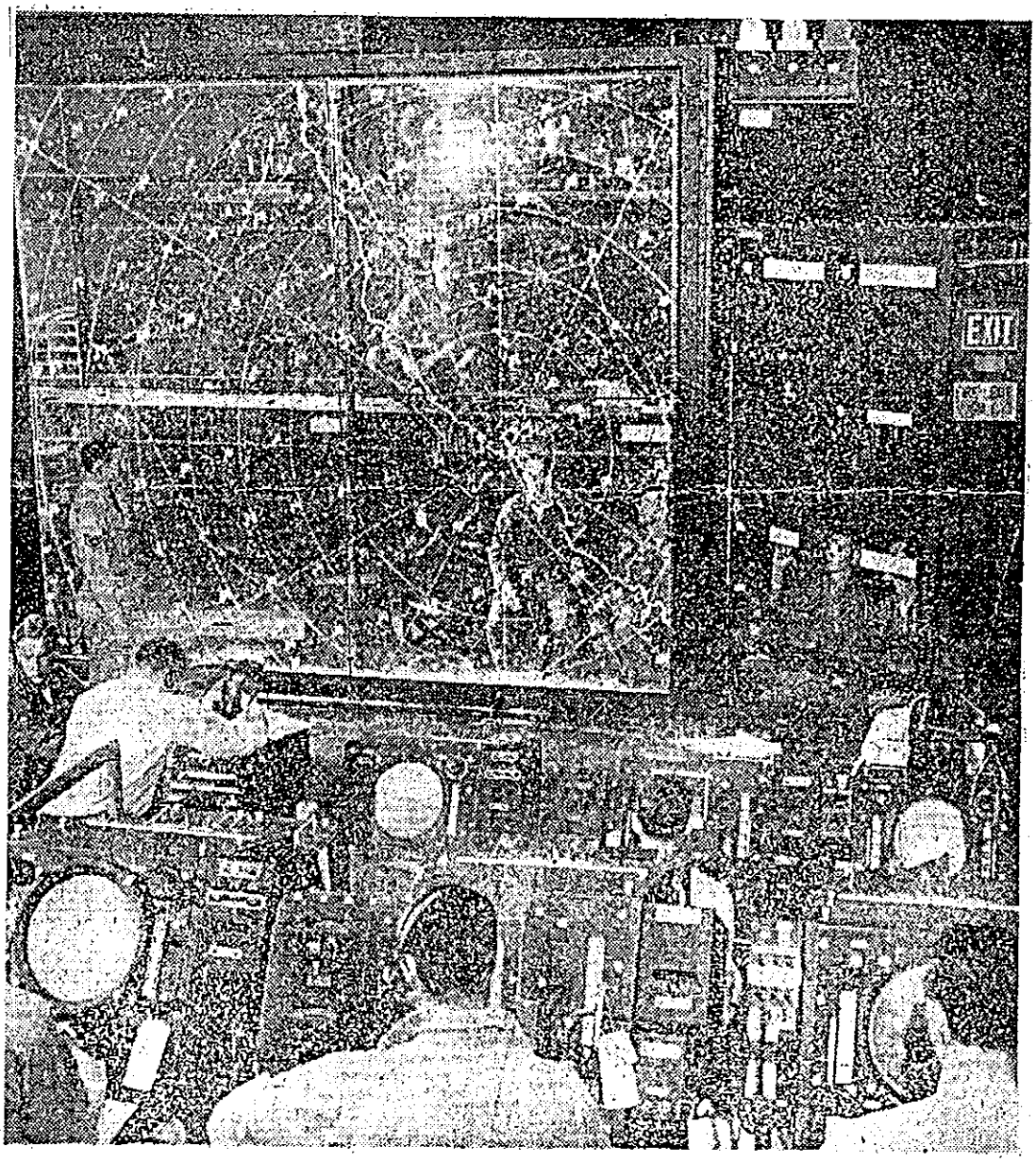
[47]This photograph is from The San Francisco Chronicle, December 14, 1953. Photographs from newspaper articles on this page and on page 35 were photocopied during research. Attempts have been made to locate the originals, however The Chronicle felt the chances of locating these negatives was slim. Therefore, there are only reproduced copies available.

Figure 5.
Plexiglas plotting board at Combat Operations Center, Ent Air Force Base[48]
from The Emerging Shield.



[48]Reproduced from The Emerging Shield page 151.

Figure 6.
Radar screens in operation with Plexiglas plotting board[49]
From " Air Force Concedes Where Tamalpais Is."



[49]San Francisco Chronicle. December 14, 1953.

Figure 7.
Airman with guard dog with radome in background, MVAFS
November, 1955
Courtesy Marin Historical Society San Rafael.

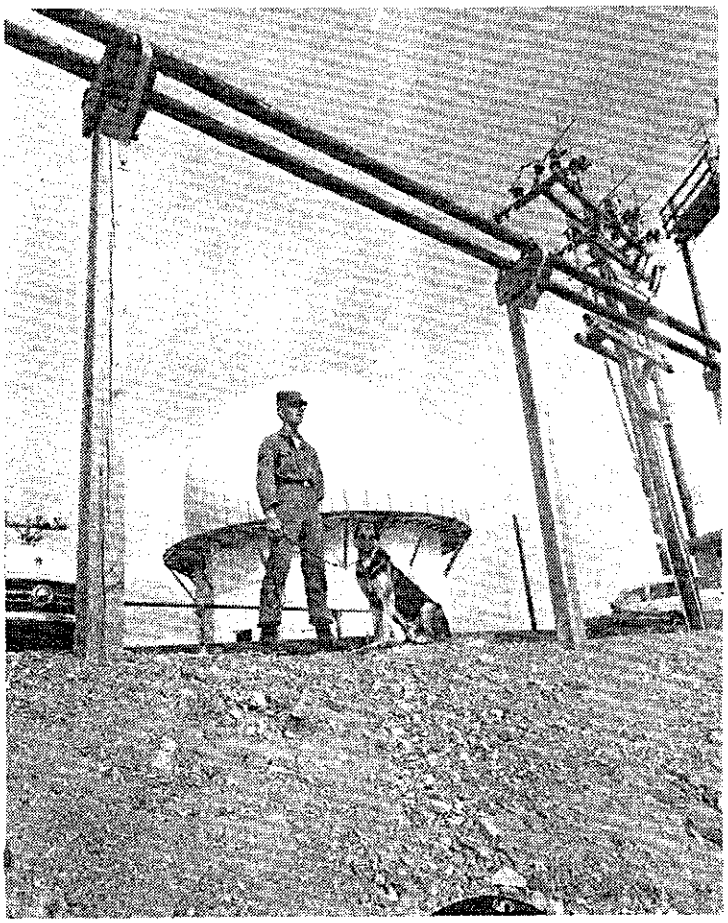


Figure 8.
Airman with guard dog with radome in background, MVAFS
November, 1955
Courtesy Marin Historical Society San Rafael

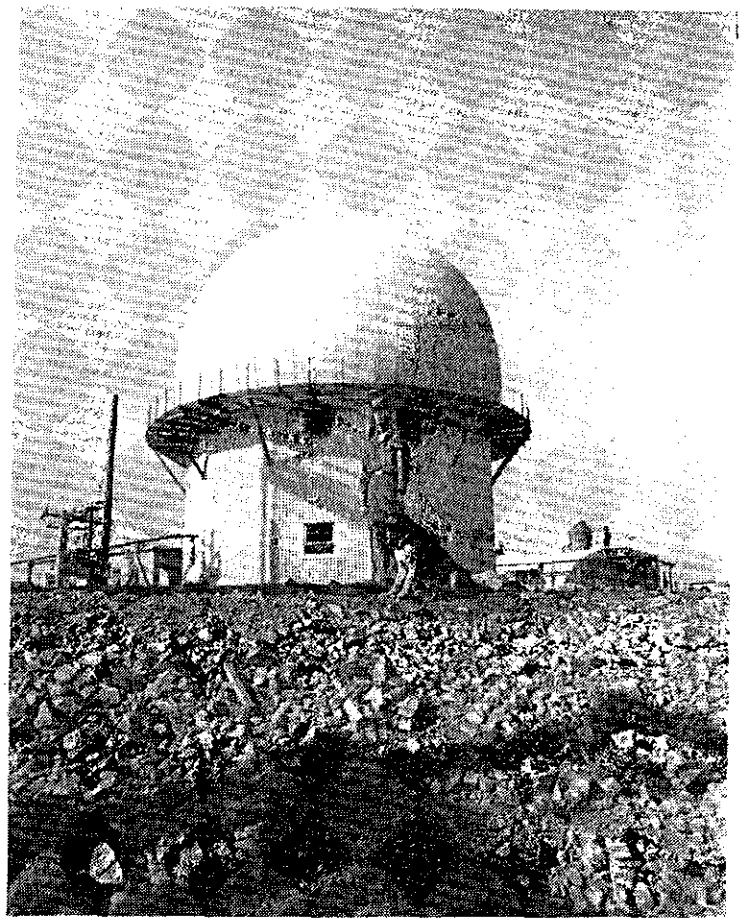


Figure 9.
Airman with guard dog with radome in background, MVAFS
November, 1955
Courtesy Marin Historical Society San Rafael.

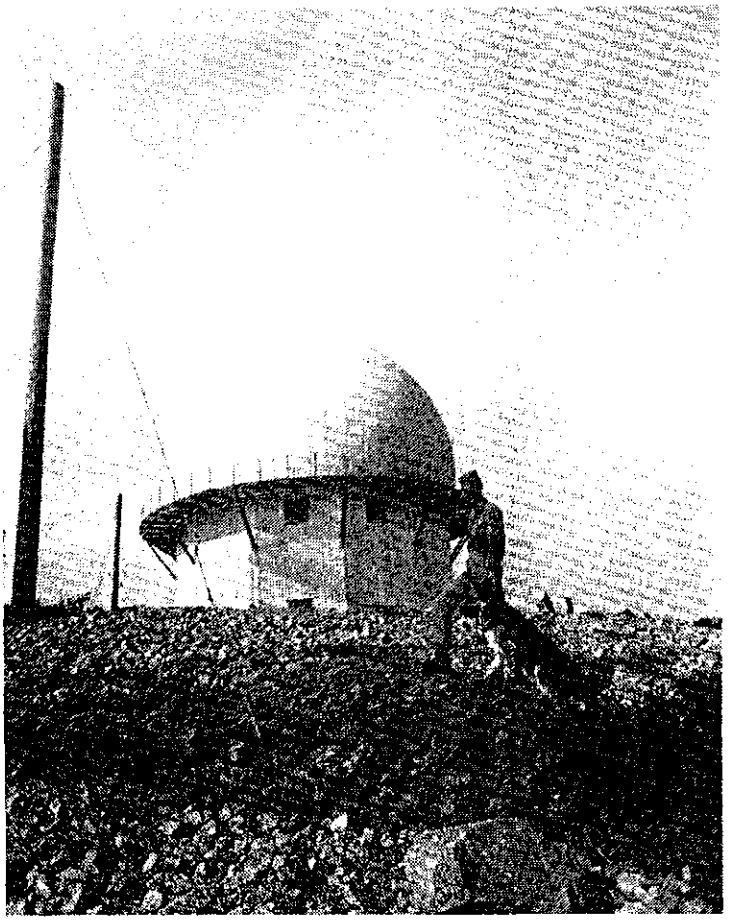


Figure 10.
Airman with guard dog at front gate of MVAFS
November, 1955
Courtesy Marin Historical Society San Rafael.

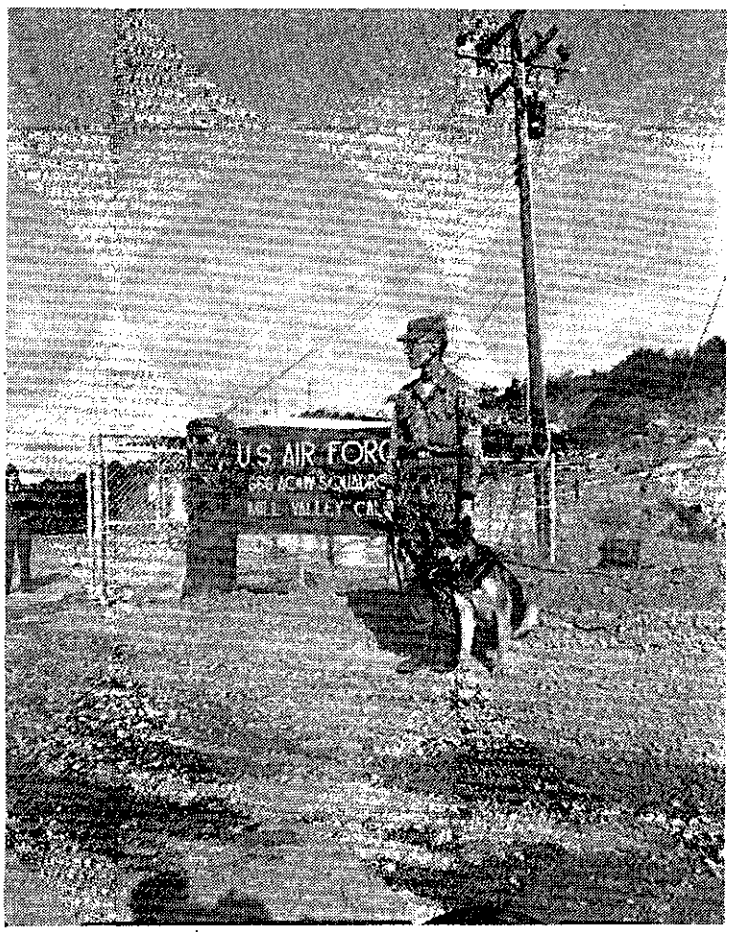


Figure 11.
666th Radar Squadron, 40th Artillery Brigade Command Post
Mill Valley Air Force Station
Courtesy Presidio of San Francisco Museum Collection, Golden Gate National Recreation Area
Collection No. B4 F22.1

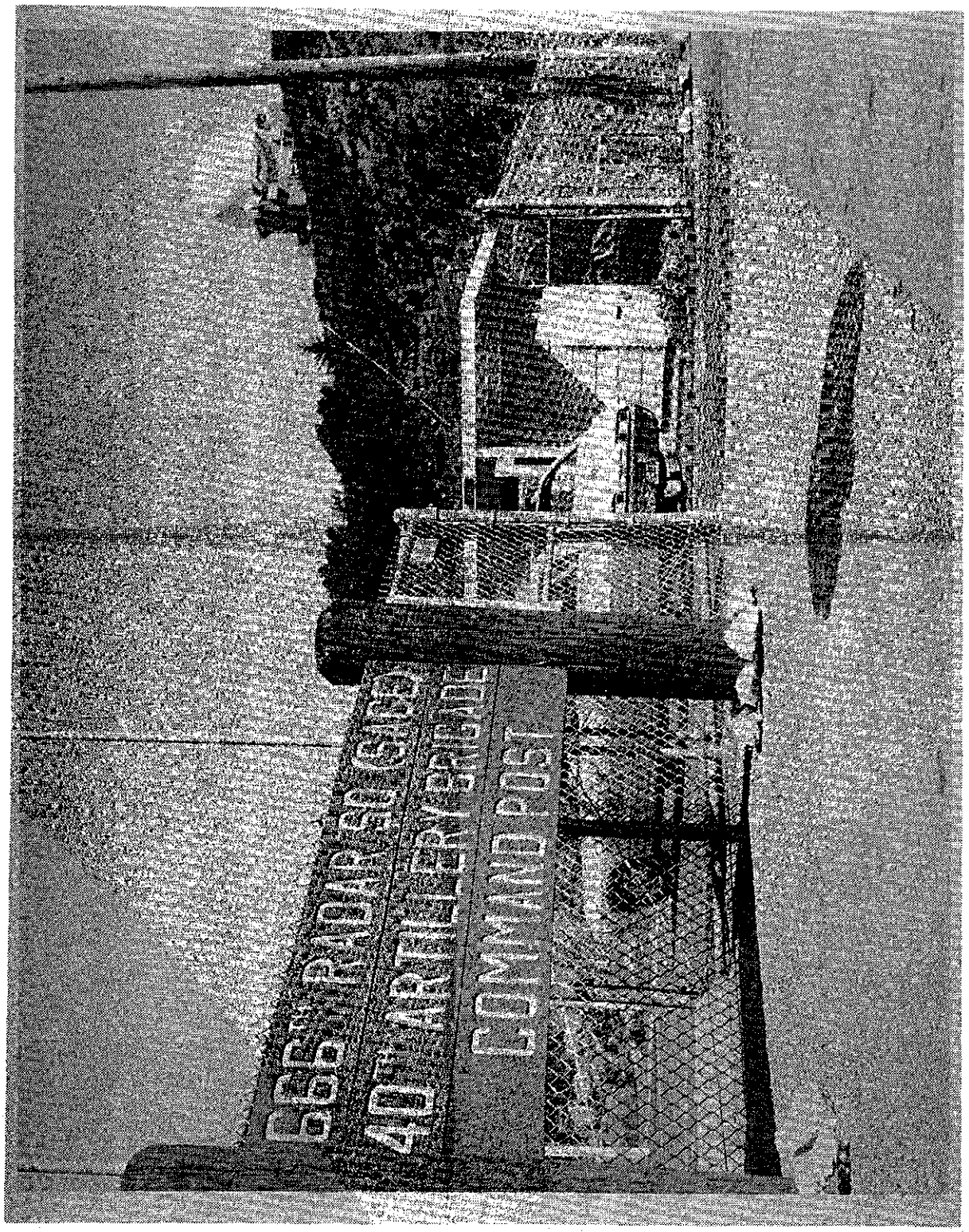


Figure 12.
Mill Valley Air Force Station
Aerial View of SAGE, Mt. Tamalpais
Courtesy Presidio of San Francisco Museum Collection, Golden Gate National Recreation Area
Collection No. B4 F22.2
*The back of this photograph, as well as Figure 13 and 14, read "Aerial View of SAGE Post , " SAGE was integrated into the system at Mill Valley in January 1961. However, it seems that Figure 14. might predate 1961 because of the state of construction evident in this photo.

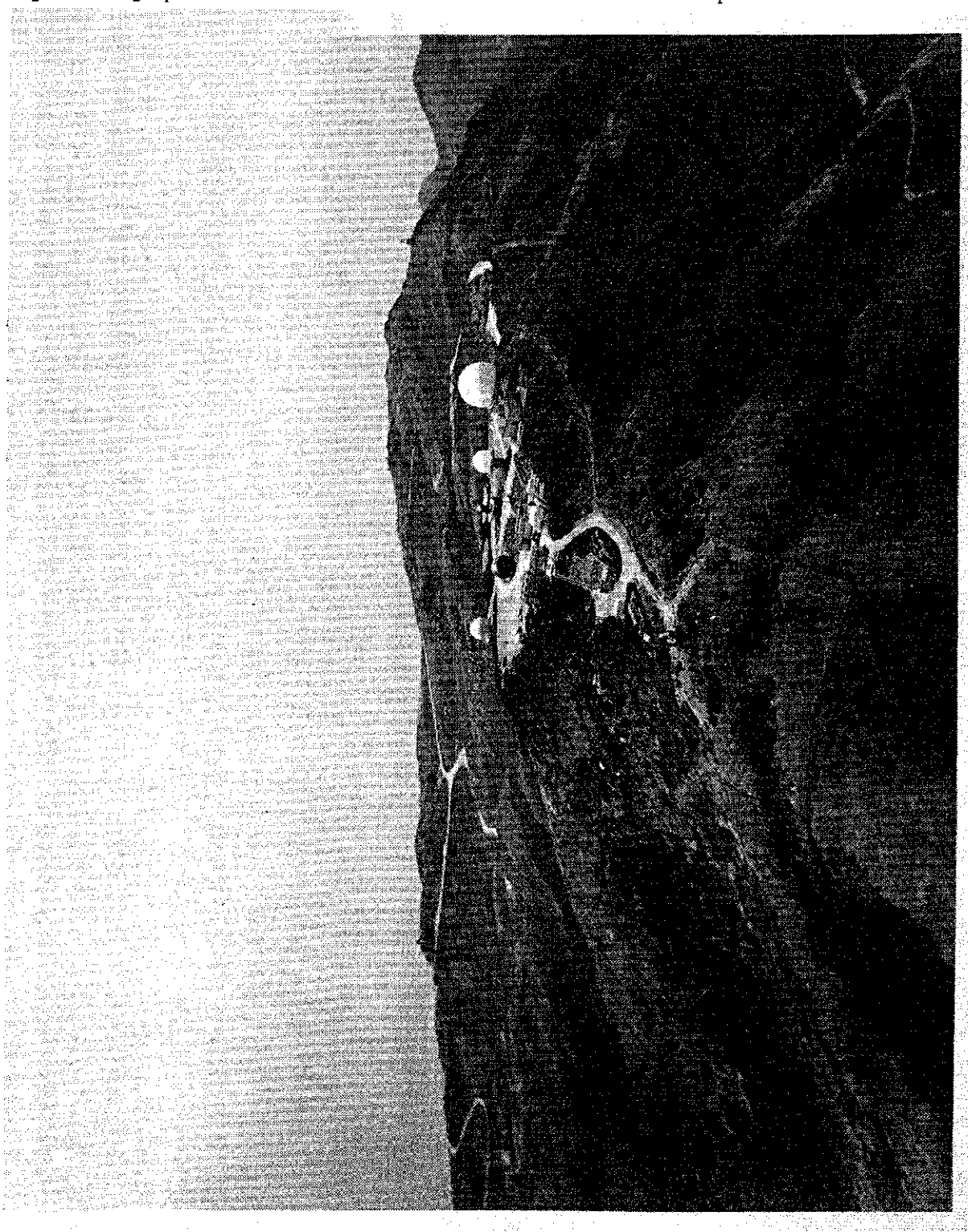


Figure 13.
Aerial View of SAGE Post
Courtesy Presidio of San Francisco Museum Collection, Golden Gate National Recreation Area
Collection No. B4 F22.3

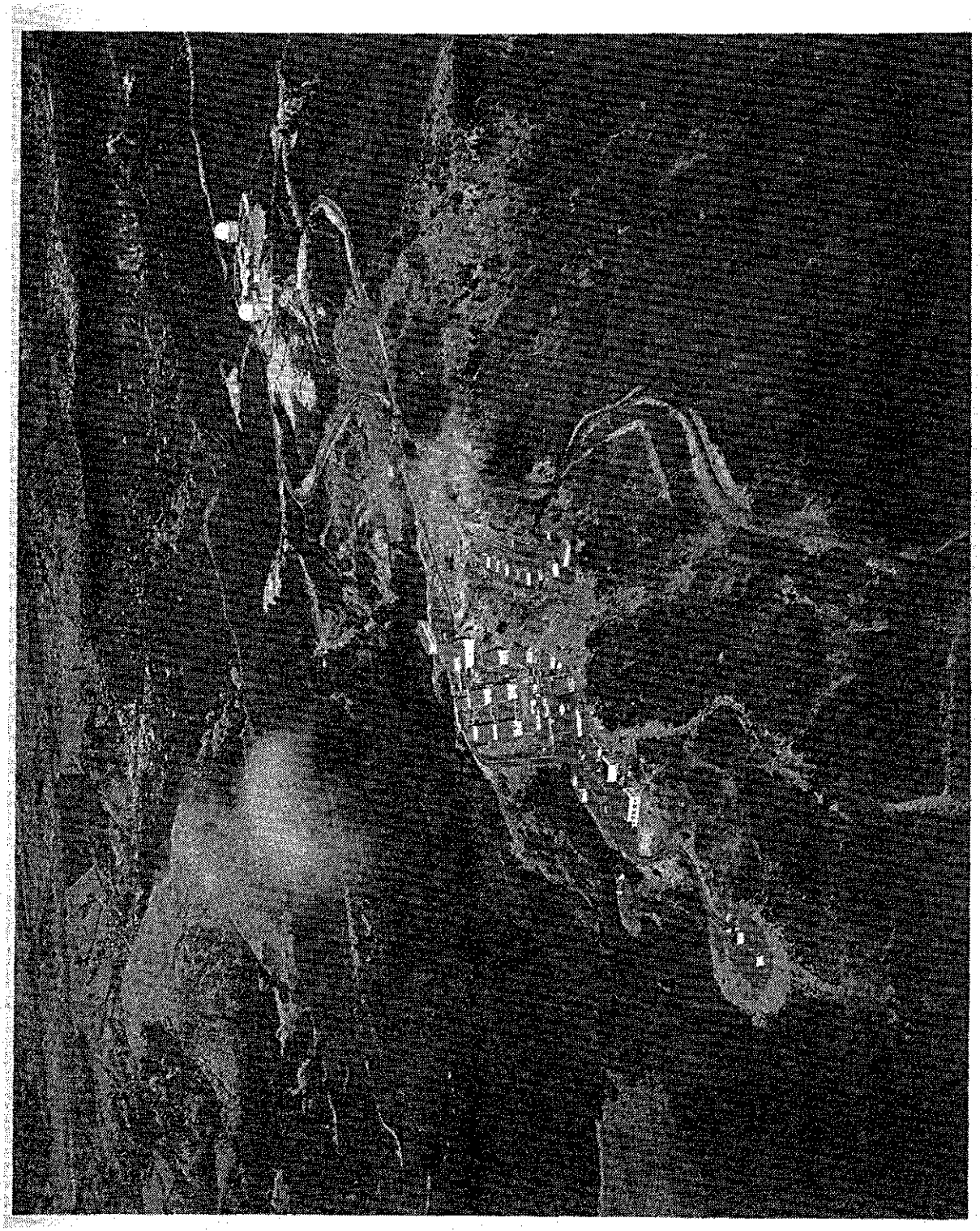
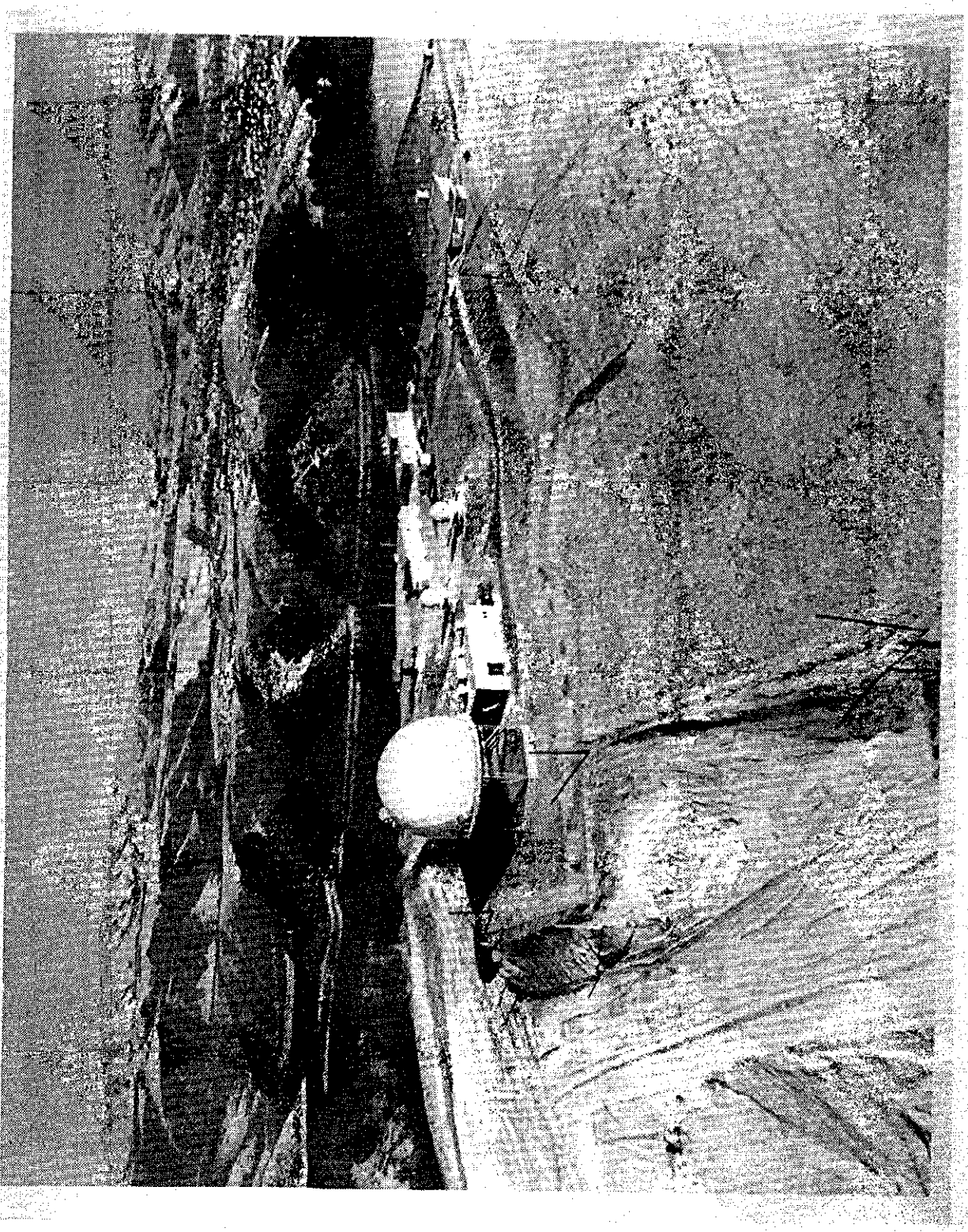
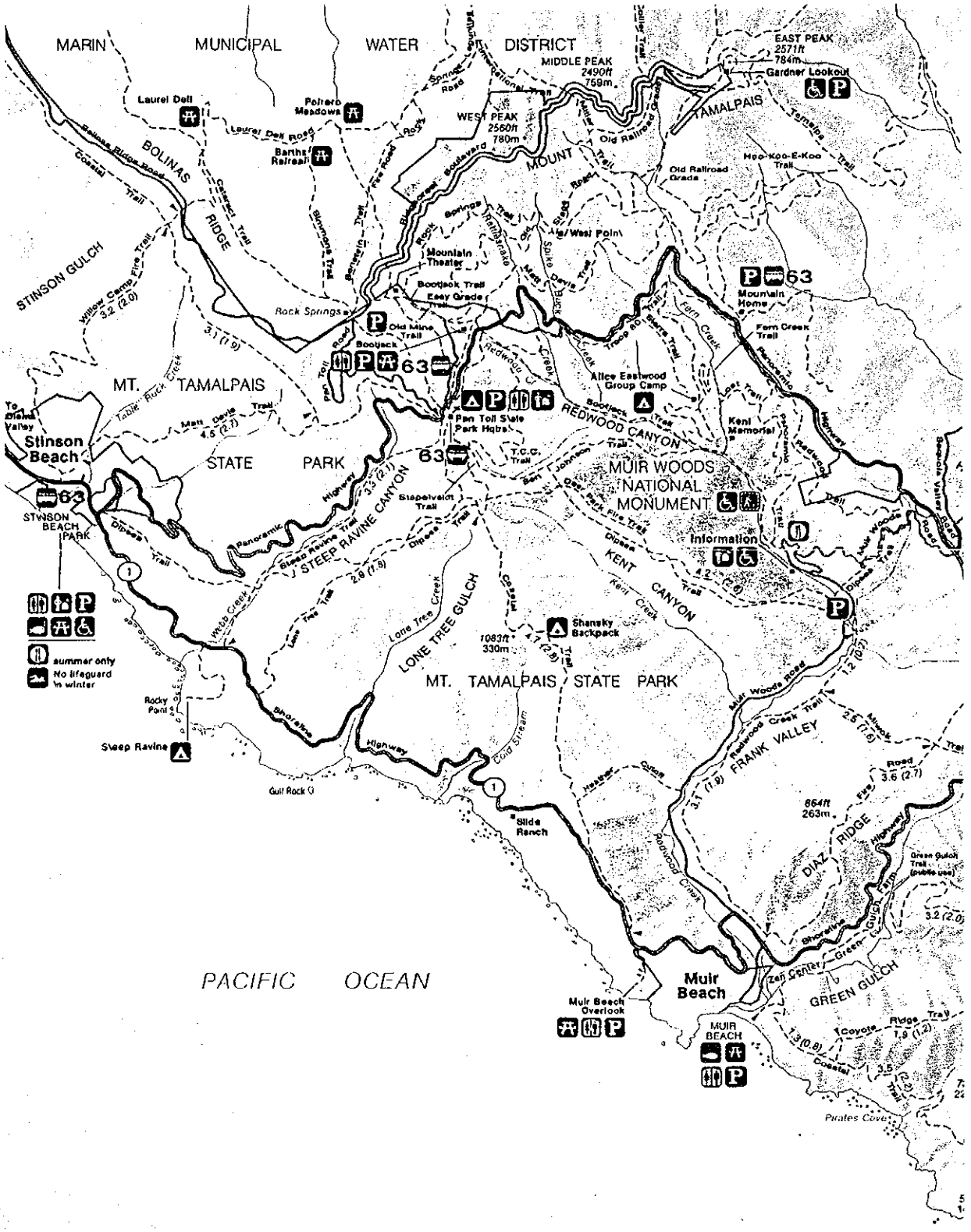


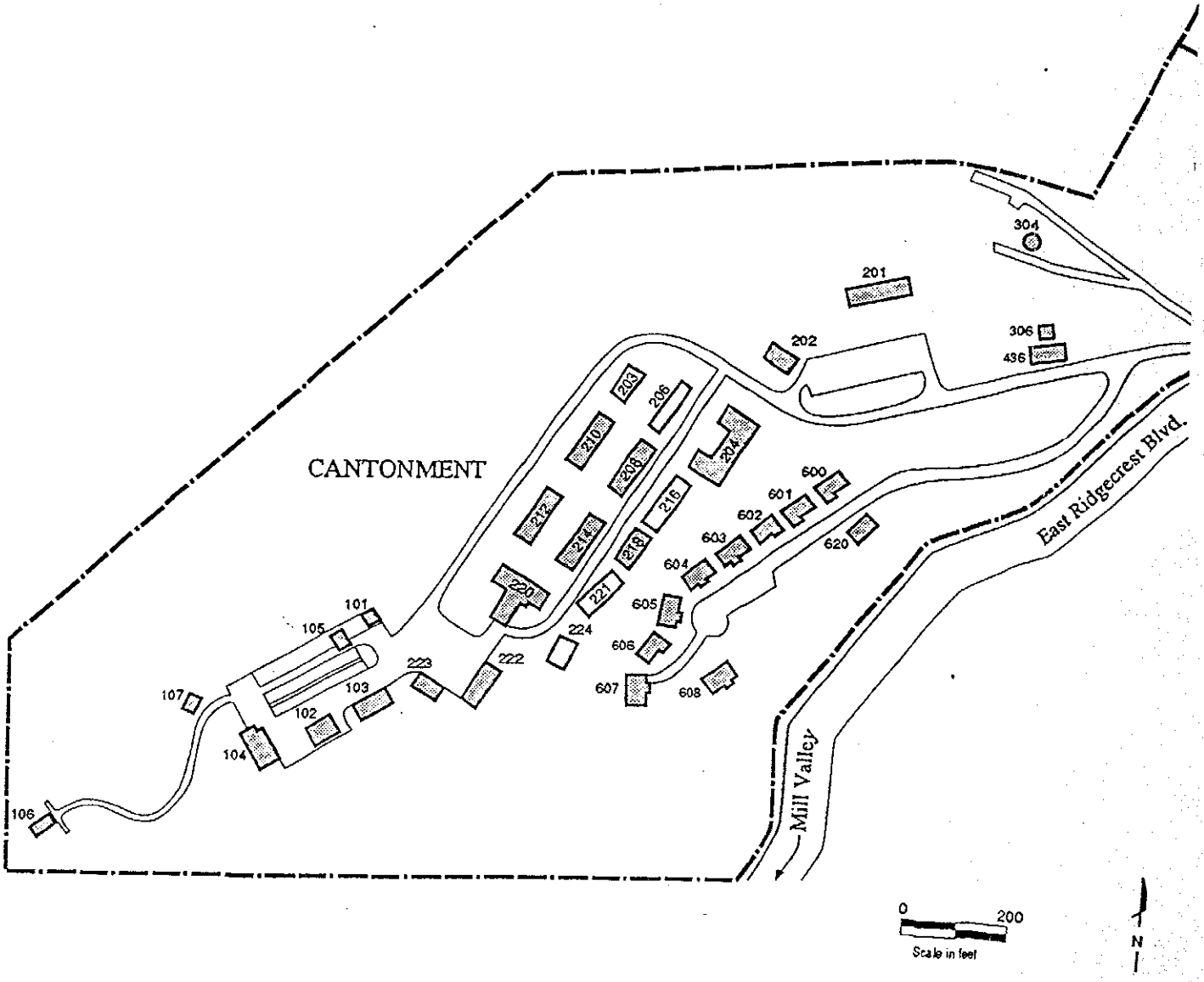
Figure 14.
Aerial View of SAGE Post
Courtesy Presidio of San Francisco Museum Collection, Golden Gate National Recreation Area
Collection No. B4 F22.4



MILL VALLEY AIR FORCE STATION LOCATION MAP

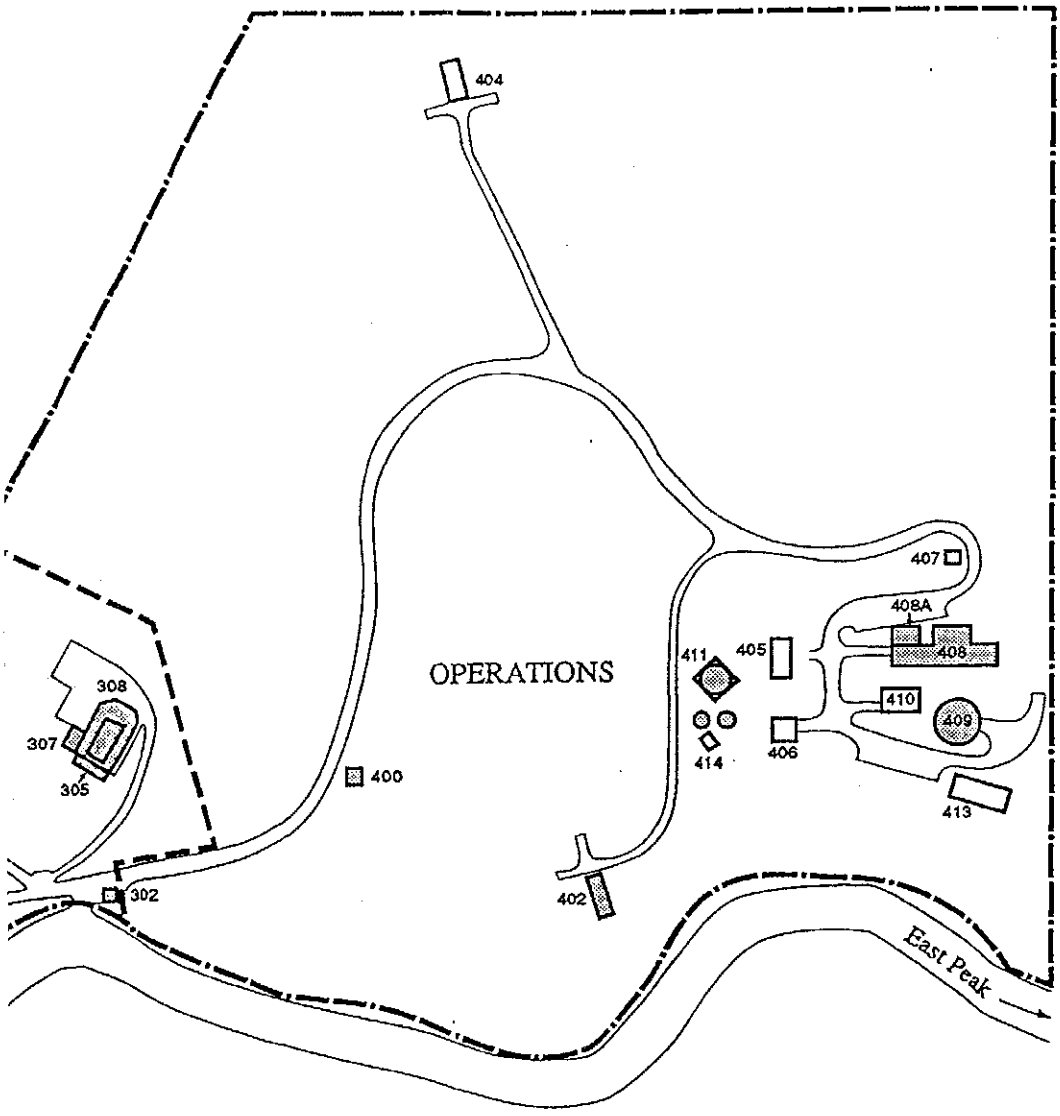


SITE PLAN[50]



[50]As drawn by Dames and Moore for the Mill Valley Air Force Station National Register Nomination Form. The shaded areas represent those buildings considered contributing to the register area and those buildings not shaded represent those buildings considered non-contributing.

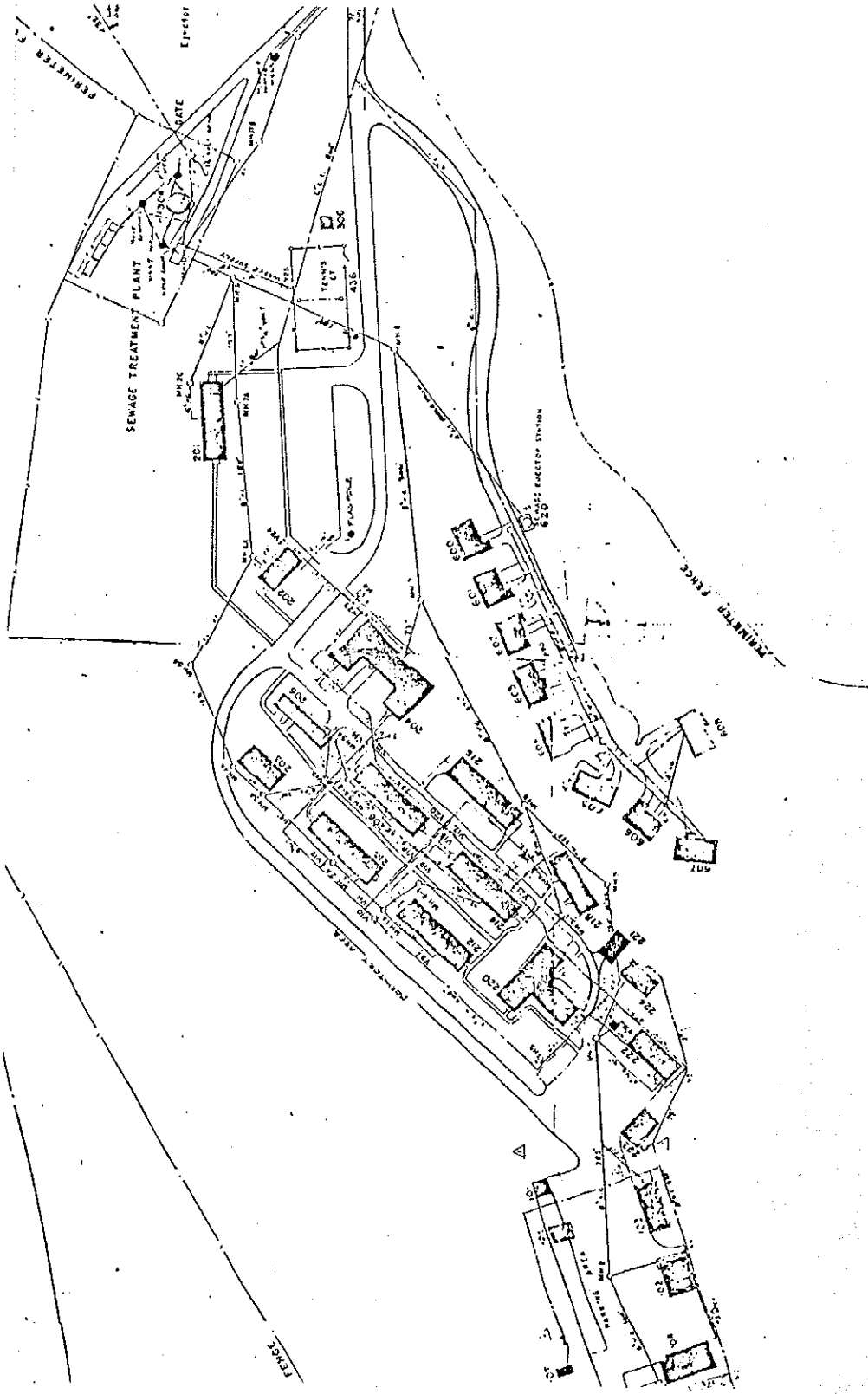
SITE PLAN (continued)



Mill Valley Air Force Station
Map of Features with Facility Numbers

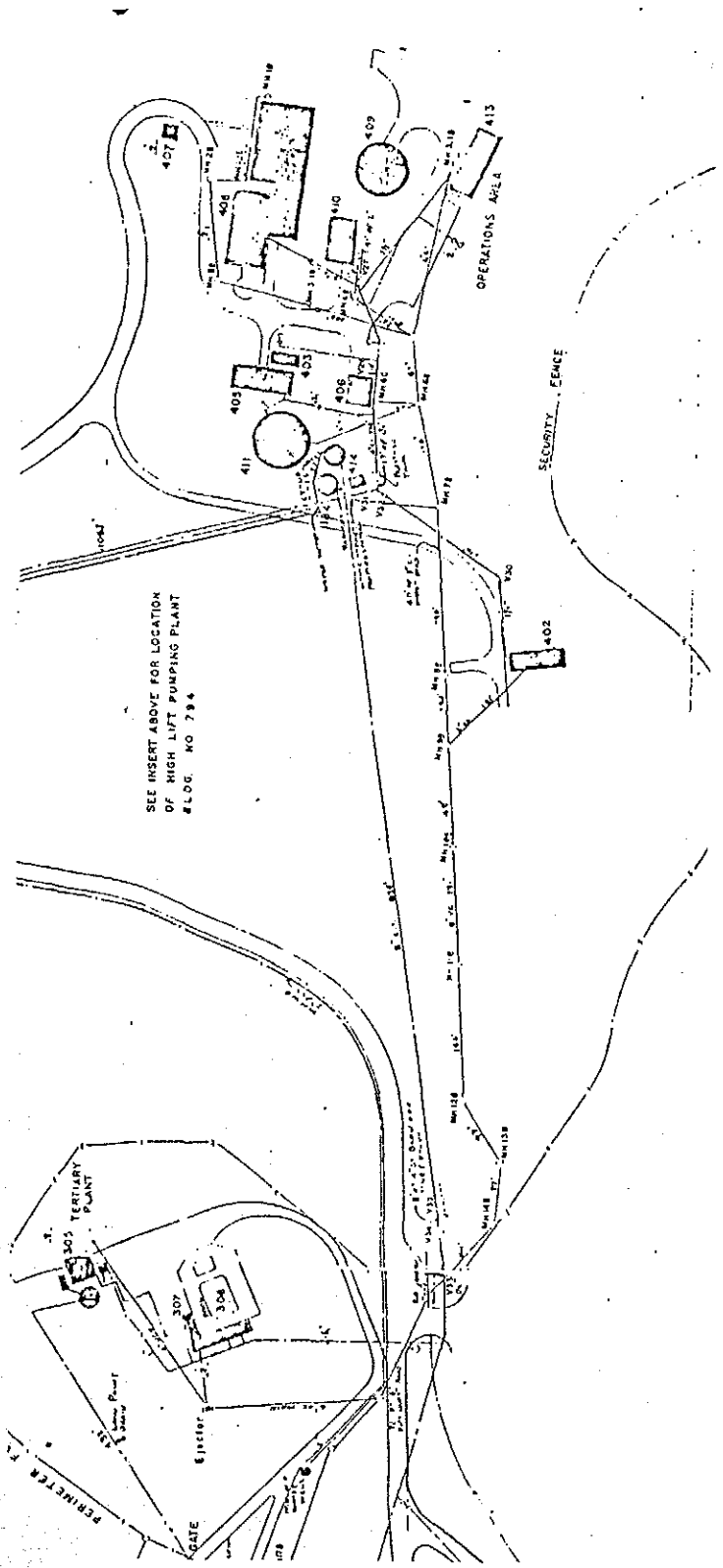
Key
Contributing
Non-Contributing

SITE PLAN[51]



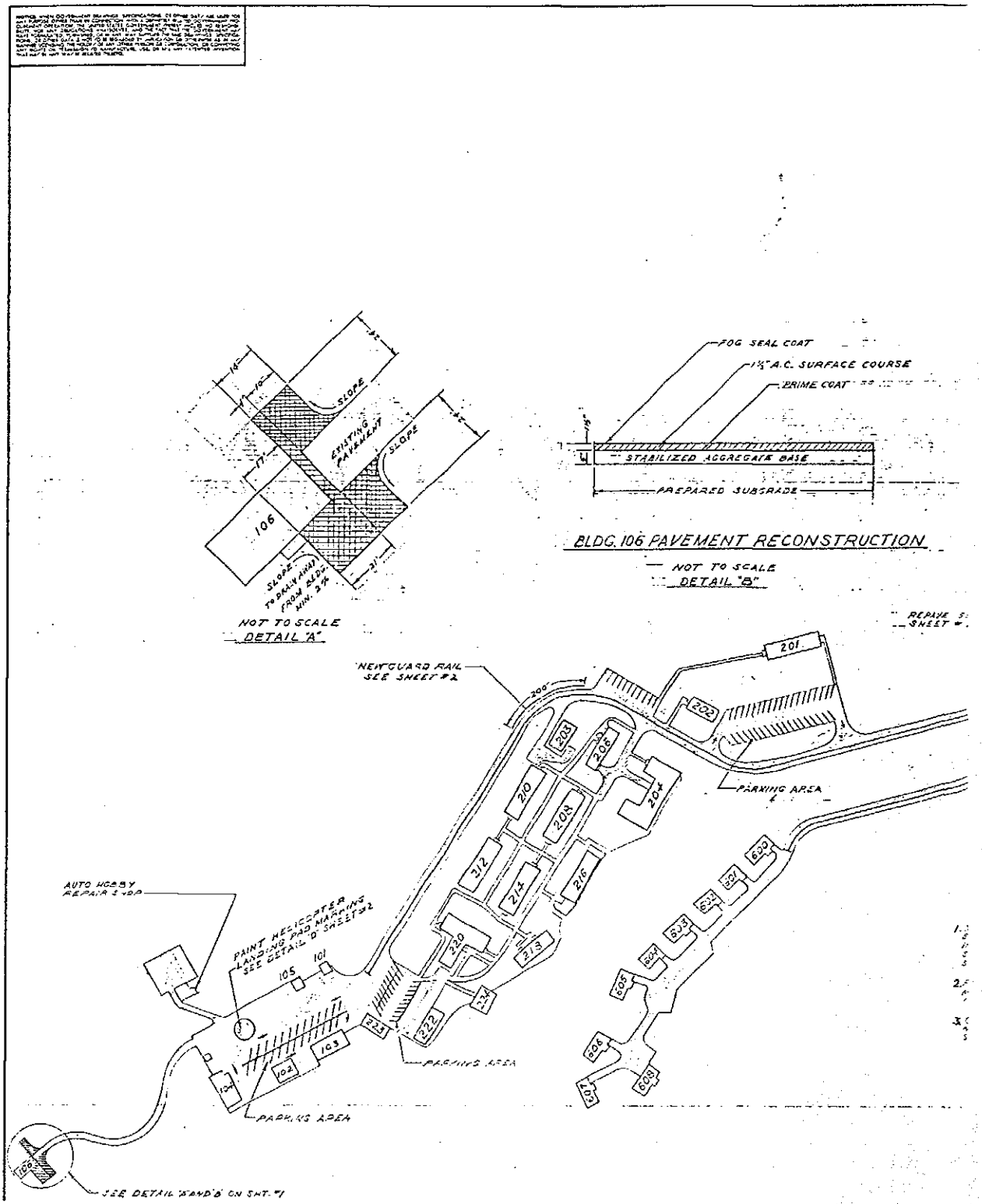
[51]Dated August 22, 1979.

SITE PLAN (continued)



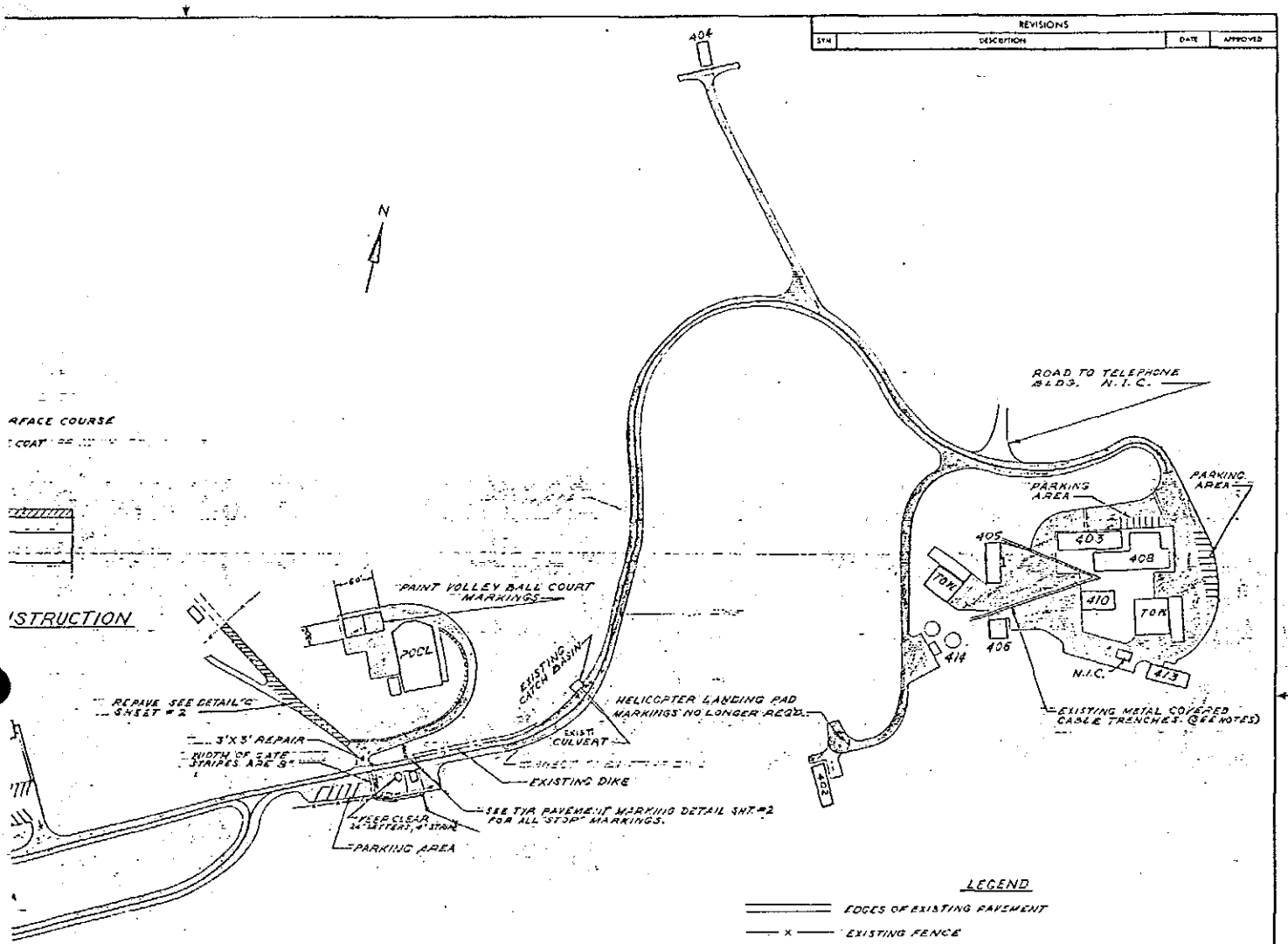
BLDG NO.	DESCRIPTION
101	PAINT LOCKER & LUBRICANT STORAGE
102	CENTRAL HEATING STATION
103	CE MAINT. SHOP
104	MOTOR REPAIR SHOP & AUTO HOBBY SHOP
105	CE STORAGE
106	BOWLING ALLEY
107	MOTORCYCLE HOBBY SHOP
184	PUMP STATION & FIRE PUMP STORAGE TANKS (75,000 GAL
201	BACHELOR AIRMEN QTRS
202	ADMINISTRATION BLDG.
203	THEATRE
204	BACHELOR AIRMEN QTRS, 2-STORIES
206	EXCHANGE
208	BACHELOR AIRMEN QTRS 2-STORIES
210	" " " " "
212	" " " " "
214	" " " " "
216	MULTI-PURPOSE BLDG 2-STORIES
218	CONSOLIDATED OPEN MESS
220	MESS HALL
221	COLD STORAGE FAC.
222	SUPPLY & ADMINISTRATION BLDG.
223	BCE ADMIN / CV STG.
224	PHYSICAL CONDITIONING CENTER
304	SEC. SEWAGE TRMT.
	PRIMARY SETTLING TANK
	TRICKLING FILTER
	SLUDGE DIGESTER
	SLUDGE DRYING BED
	SECONDARY SETTLING TANK
	DOSING TANK
305	TERTIARY SEWAGE TRMT.
306	EXPLOSIVE STORAGE
307	BATH HOUSE & CABANA
308	SWIMMING POOL
400	SEC. POL OPNS.
402	BCE COVERED STORAGE
403	TRAINING BLDG
405	SUPPLY BLDG
406	CENTRAL HEATING STATION
407	RADAR TOWER FPS-90
408	OPERATION BLDG.
409	ANTENNA TOWER FPS-107
410	POWER BLDG.
411	RADAR TOWER FPS-7
413	PME FIELD LAB & HSG STORAGE
414	PUMP HOUSE
436	TENNIS COURT
500-506	MILITARY FAMILY HOUSING
620	SEWAGE EJECTOR
794	HIGH LIFT PUMPING STATION
1	FLAGPOLE

SITE PLAN[52]



[52]Dated May 24, 1966.

SITE PLAN (continued)



PLAN

SCALE: 1" = 100'

LEGEND

- EDGES OF EXISTING PAVEMENT
- x — EXISTING FENCE
- EXISTING BUILDING
- PAVEMENT TO BE FOG SEAL COATED
- CONCRETE PAVED AREAS, WALKWAYS, ROADS, AND CONDUIT TROUGHS NOT TO BE SEAL COATED.
- AREAS TO RECEIVE NEW PAVING
- PARKING AREA STRIPING TO BE PAINTED
- CENTERLINE STRIPING

GRAPHIC SCALE
1" = 100'
0 50 100 200 300 400

NOTES

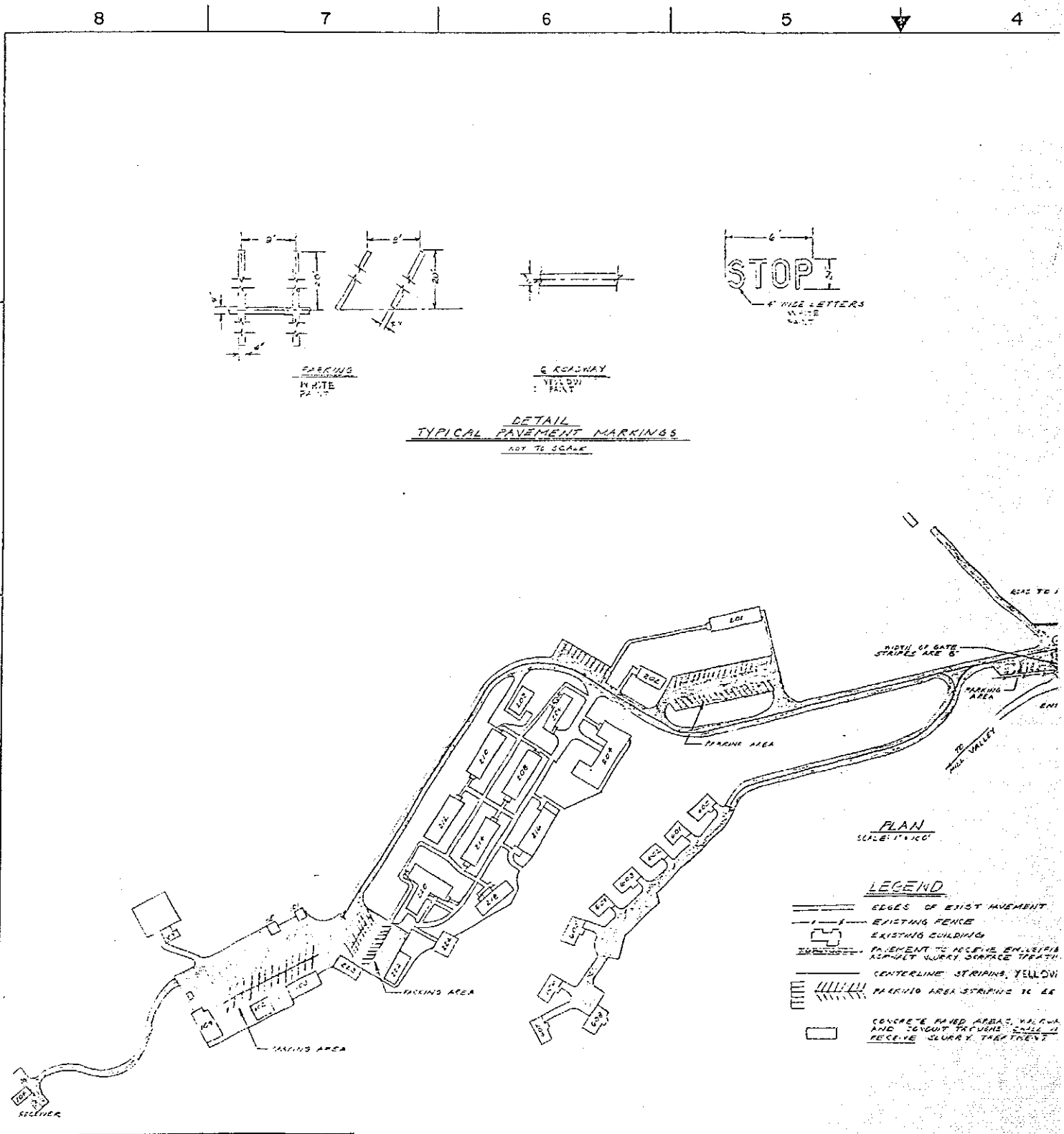
1. METAL COVERED CONCRETE PADS, CABLE TRENCHES, MANHOLE COVERS, BLDGS ADJACENT TO ENTR AND ALL OTHER FACILITIES NOT TO BE PAVED SHALL BE PROTECTED FROM DAMAGE DURING FOG SEALING OPERATION.
2. FINISHED ELEVATION OF NEW PAVING, BLDG 126 TO MATCH ELEVATION OF EXISTING ROAD AT TERMINAL POINT
3. CONTRACTOR TO PROVIDE TRANSITION FROM NEW PAVING TO EXISTING PAVING IN ALL CONSTRUCTION AREAS.

ADDITIONAL CODE IDENT NO.	DRAFTSMAN A2C P.F. LONG	U.S. AIR FORCE AIR DEFENSE COMMAND HAMILTON AIR FORCE BASE CALIFORNIA
	CHECKER	MILL VALLEY AFS.
	DESIGN ENGR	MAINT. ROADS
	DRAWING	
	DESIGN ACTIVITY AUTHENTICATION (NAME, SYMBOL AND DATE)	CODE IDENT NO. MIL 5-7 / SIZE D / DRAWING NUMBER MIL-900-102.30
		SCALE 1" = 100' / SHEET 1 OF X

G-3

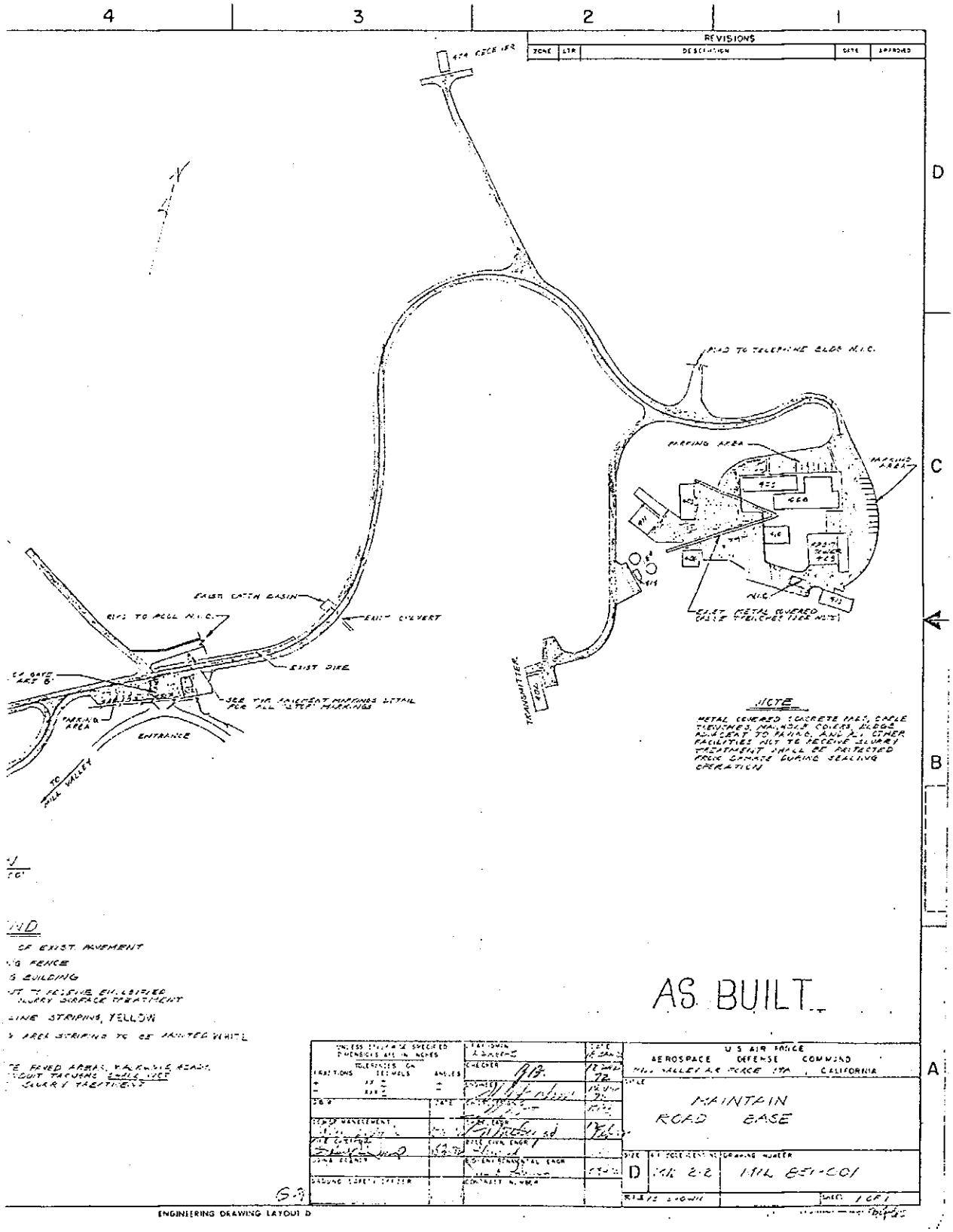
ENGINEERING DRAWING LAYOUT D

SITE PLAN[53]

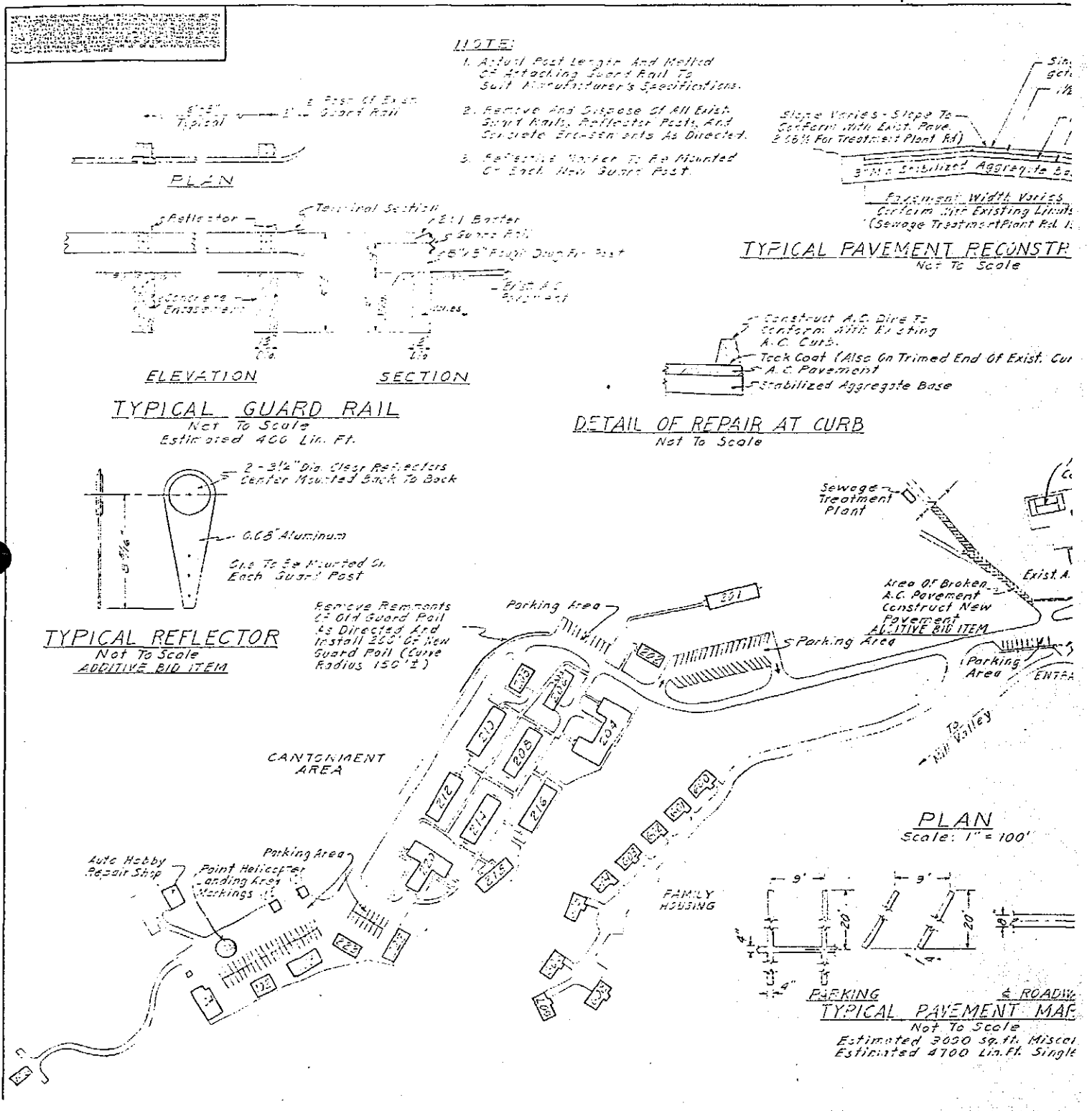


[53]Dated January 18, 1972.

SITE PLAN (continued)

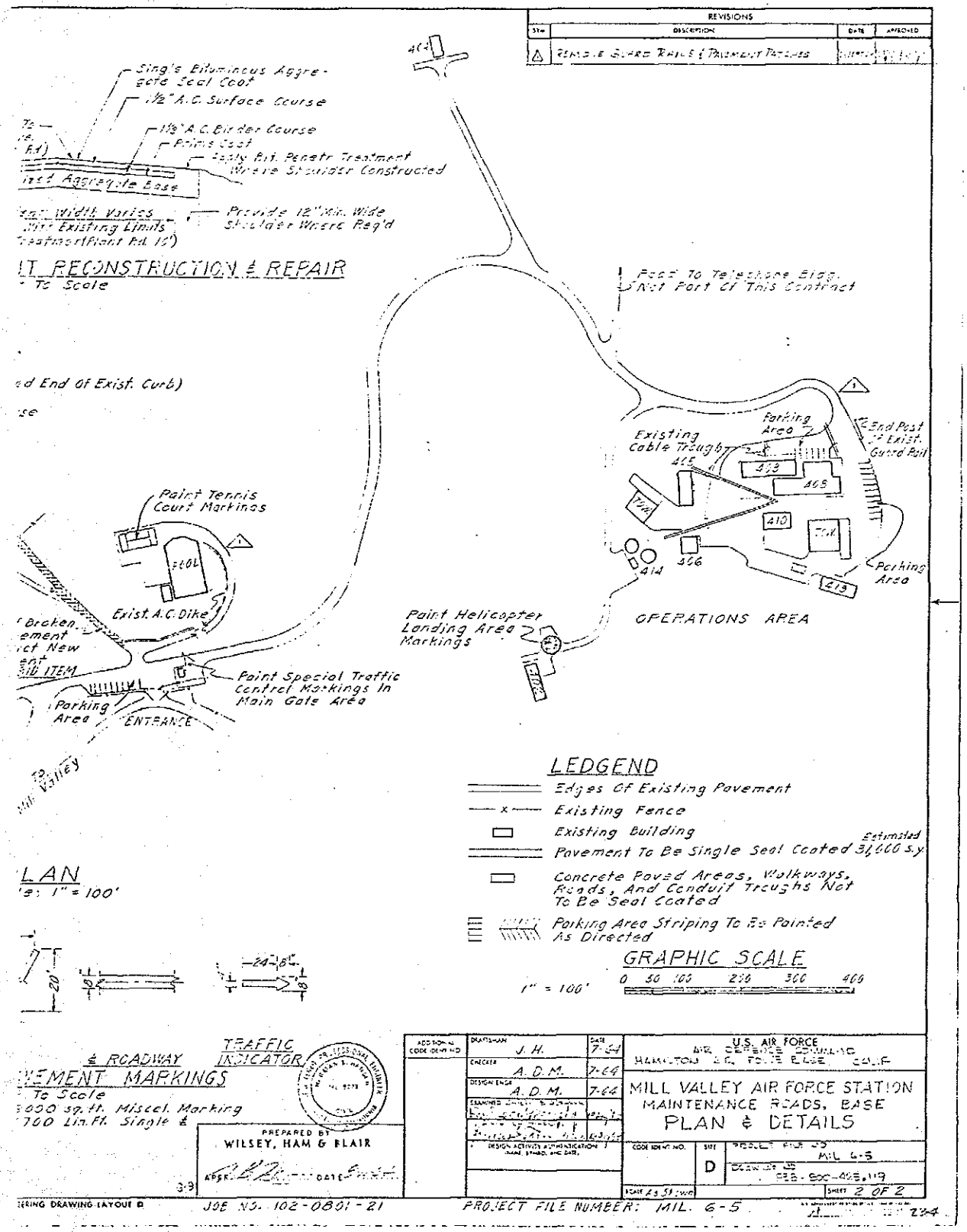


SITE PLAN[54]



[54]Dated July 1994.

SITE PLAN (continued)



KLAMATH AIR FORCE STATION
Individual Building Plans and Elevations
as related to
MILL VALLEY AIR FORCE STATION

INDEX TO HISTORIC DRAWINGS OF KLAMATH AIR FORCE BASE AS THEY RELATE TO MILL VALLEY AIR FORCE BASE

These drawings are located at Klamath Air Force Station which is now part of Redwood National Forest in Requa, California. The National Park Service currently occupies part of the site. The radar operations area is occupied by the Federal Aviation Administration, as at Mill Valley. As discussed in the test above, the architectural firm of Holobird, Root and Burgee was commissioned to draw up plans for the Radar Stations to be located across the country.

For use in a report this size the drawings have been reduced to fit to 81/2 by 11 format. The type of station that the plans relate to is noted after the figure number on the drawing.

FIGURE 1. CENTRAL HEATING PLANT FOR TYPE 2 AND 3 MOD. STATION. DATED OCTOBER, 24, 1949. #26-02-03. SHEET 1 OF 8.

FIGURE 2. CENTRAL HEATING PLANT FOR TYPE 2 AND 3 MOD. STATION DATED OCTOBER, 24, 1949. #26-02-03. SHEET 1 OF 8. FLOOR PLAN.

FIGURE 3. CENTRAL HEATING PLANT FOR TYPE 2 AND 3 MOD. STATION DATED OCTOBER, 24, 1949. #26-02-03. SHEET 1 OF 8. SECTION.

FIGURE 4. CENTRAL HEATING PLANT FOR TYPE 2 AND 3 MOD. STATION DATED OCTOBER 24, 1949. #26-02-03. SHEET 2 0F 8.

FIGURE 5. CENTRAL HEATING PLANT FOR TYPE 2 AND 3 MOD. STATION DATED OCTOBER 24, 1949. #26-02-03. SHEET 2 0F 8. ELEVATION.

FIGURE 6. CENTRAL HEATING PLANT FOR TYPE 2 AND 3 MOD. STATION DATED OCTOBER 24, 1949. #26-02-03. SHEET 2 0F 8. ELEVATION.

FIGURE 7. CENTRAL HEATING PLANT FOR TYPE 2 AND 3 MOD. STATION DATED OCTOBER 24, 1949. #26-02-03. SHEET 2 0F 8. ELEVATION.

FIGURE 8. CENTRAL HEATING PLANT FOR TYPE 2 AND 3 MOD. STATION DATED OCTOBER 24, 1949. #26-02-03. SHEET 2 0F 8. ELEVATION.

FIGURE 9. SUPPLY, ADMINISTRATION & RECREATION BUILDING FOR TYPE 1 STATION. DATED SEPTEMBER 2, 1949. #30-06-04. SHEET 1 OF 7.

FIGURE 10. SUPPLY, ADMINISTRATION & RECREATION BUILDING FOR TYPE 1 STATION. DATED SEPTEMBER 2, 1949. #30-06-04. SHEET 1 OF 7. PLAN.

FIGURE 11. SUPPLY, ADMINISTRATION & RECREATION BUILDING FOR TYPE 1 STATION. DATED SEPTEMBER 2, 1949. #30-06-04. SHEET 2 OF 7.

FIGURE 12. SUPPLY, ADMINISTRATION & RECREATION BUILDING FOR TYPE 1 STATION. DATED SEPTEMBER 2, 1949. #30-06-04. SHEET 2 OF 7. ELEVATION.

FIGURE 13. SUPPLY, ADMINISTRATION & RECREATION BUILDING FOR TYPE 1 STATION. DATED SEPTEMBER 2, 1949. #30-06-04. SHEET 2 OF 7. ELEVATION.

FIGURE 14. SUPPLY, ADMINISTRATION & RECREATION BUILDING FOR TYPE 1 STATION. DATED SEPTEMBER 2, 1949. #30-06-04. SHEET 2 OF 7. ELEVATION.

FIGURE 15. SUPPLY, ADMINISTRATION & RECREATION BUILDING FOR TYPE I STATION. DATED SEPTEMBER 2, 1949. #30-06-04. SHEET 2 OF 7. SECTION.

FIGURE 16. BACHELOR QUARTERS FOR TYPE 1,2,3,3 MOD., AND , 4 STATIONS (32 MAN CAPACITY). DATED SEPTEMBER 2, 1949. 25-22-03. SHEET 2 OF 10.

FIGURE 17. BACHELOR QUARTERS FOR TYPE 1,2,3,3 MOD AND, 4 STATIONS (32 MAN CAPACITY). DATED SEPTEMBER 2, 1949. 25-22-03. SHEET 2 OF 10. ELEVATION.

FIGURE 18. BACHELOR QUARTERS FOR TYPE 1,2,3,3 MOD. AND, 4 STATIONS (32 MAN CAPACITY). DATED SEPTEMBER 2, 1949. 25-22-03. SHEET 2 OF 10. SECTION.

FIGURE 19. BACHELOR QUARTERS FOR TYPE 1,2,3,3 MOD. AND 4 STATIONS (32 MAN CAPACITY). DATED SEPTEMBER 2, 1949. 25-22-03. SHEET 2 OF 10. ELEVATION.

FIGURE 20. BACHELOR QUARTERS FOR TYPE 1,2,3,3 MOD. AND 4 STATIONS (32 MAN CAPACITY). DATED SEPTEMBER 2, 1949. 25-22-03. SHEET 2 OF 10. ELEVATION.

FIGURE 21. BACHELOR QUARTERS FOR TYPE 1,2,3,3 MOD. AND 4 STATIONS (32 MAN CAPACITY). DATED SEPTEMBER 2, 1949. 25-22-03. SHEET 7 OF 10.

FIGURE 22. BACHELOR QUARTERS FOR TYPE 1,2,3,3 MOD., AND 4 STATIONS (32 MAN CAPACITY). DATED SEPTEMBER 2, 1949. 25-22-03. SHEET 7 OF 10. ELEVATION.

FIGURE 23. BACHELOR QUARTERS FOR TYPE 1,2,3,3 MOD. AND 4 STATIONS (32 MAN CAPACITY). DATED SEPTEMBER 2, 1949. 25-22-03. SHEET 7 OF 10. ELEVATION.

FIGURE 24. BACHELOR QUARTERS FOR TYPE 1,2,3,3 MOD. AND 4 STATIONS (32 MAN CAPACITY). DATED SEPTEMBER 2, 1949. 25-22-03. SHEET 7 OF 10. ELEVATION.

FIGURE 25. BACHELOR QUARTERS FOR TYPE 1,2,3,3 MOD. AND 4 STATIONS (32 MAN CAPACITY). DATED SEPTEMBER 2, 1949. 25-22-03. SHEET 7 OF 10. ELEVATION.

FIGURE 26. BACHELOR QUARTERS FOR TYPE 1,2,3,3 MOD. AND 4 STATIONS (32 MAN CAPACITY). DATED SEPTEMBER 2, 1949. 25-22-03. SHEET 8 OF 10.

FIGURE 27. BACHELOR QUARTERS FOR TYPE 1,2,3,3 MOD. AND 4 STATIONS (32 MAN CAPACITY). DATED SEPTEMBER 2, 1949. 25-22-03. SHEET 8 OF 10. PLAN.

FIGURE 28. BACHELOR QUARTERS FOR TYPE 1,2,3,3 MOD. AND 4 STATIONS (32 MAN CAPACITY). DATED SEPTEMBER 2, 1949. 25-22-03. SHEET 8 OF 10. PLAN.

FIGURE 29. BACHELOR QUARTERS FOR TYPE 1,2,3,3 MOD. AND 4 STATIONS (32 MAN CAPACITY). DATED SEPTEMBER 2, 1949. 25-22-03. SHEET 10 OF 10.

FIGURE 30. BACHELOR QUARTERS FOR TYPE 1,2,3,3 MOD. AND 4 STATIONS (32 MAN CAPACITY). DATED SEPTEMBER 2, 1949. 25-22-03. SHEET 10 OF 10. ELECTRICAL.

FIGURE 31. BACHELOR QUARTERS FOR TYPE 1,2,3,3 MOD. AND 4 STATIONS (32 MAN CAPACITY). DATED SEPTEMBER 2, 1949. 25-22-03. SHEET 10 OF 10. ELECTRICAL.

FIGURE 32. MESS HALL FOR TYPE 1, STATION (47 MAN CAPACITY). DATED SEPTEMBER 2O, 1949. 36-05-21. SHEET 4 OF 6.

FIGURE 33. MESS HALL FOR TYPE 1, STATION (47 MAN CAPACITY). DATED SEPTEMBER 2O, 1949. 36-05-21. SHEET 4 OF 6. ELEVATION

FIGURE 34. MESS HALL FOR TYPE 1, STATION (47 MAN CAPACITY). DATED SEPTEMBER 2O, 1949. 36-05-21. SHEET 4 OF 6. ELEVATION.

FIGURE 35. MESS HALL FOR TYPE 1, STATION (47 MAN CAPACITY). DATED SEPTEMBER 2O, 1949. 36-05-21. SHEET 4 OF 6. ELEVATION.

FIGURE 36. MESS HALL FOR TYPE 1, STATION (47 MAN CAPACITY). DATED SEPTEMBER 2O, 1949. 36-05-21. SHEET 2 OF 6.

FIGURE 37 MESS HALL FOR TYPE 1, STATION (47 MAN CAPACITY). DATED SEPTEMBER 2O, 1949. 36-05-21. SHEET 2 OF 6. ELEVATION.

FIGURE 38. MESS HALL FOR TYPE 1, STATION (47 MAN CAPACITY). DATED SEPTEMBER 2O, 1949. 36-05-21. SHEET 2 OF 6. ELEVATION.

FIGURE 39. MESS HALL FOR TYPE 1, STATION (47 MAN CAPACITY). DATED SEPTEMBER 2O, 1949. 36-05-21. SHEET 2 OF 6. ELEVATION.

FIGURE 40. MESS HALL FOR TYPE 1, STATION (47 MAN CAPACITY). DATED SEPTEMBER 2O, 1949. 36-05-21. SHEET 2 OF 6. ELEVATION.

FIGURE 41. GATE HOUSE FOR TYPE 1, 2,3, 3 MOD AND 4 STATION (47 MAN CAPACITY). DATED SEPTEMBER 2O, 1949. 27-05-02. SHEET 2 OF 6.

FIGURE 42. GATE HOUSE FOR TYPE 1, 2,3, 3 MOD AND 4 STATION (47 MAN CAPACITY). DATED SEPTEMBER 20, 1949. 27-05-02. SHEET 2 OF 6. ELEVATION.

FIGURE 43. GATE HOUSE FOR TYPE 1, 2,3, 3 MOD AND 4 STATION (47 MAN CAPACITY). DATED SEPTEMBER 20, 1949. 27-05-02. SHEET 2 OF 6. ELEVATION. SECTION.

FIGURE 44. GATE HOUSE FOR TYPE 1, 2,3, 3 MOD AND 4 STATION (47 MAN CAPACITY). DATED SEPTEMBER 20, 1949. 27-05-02. SHEET 2 OF 6. ELEVATION. ELEVATION.

FIGURE 45. GATE HOUSE FOR TYPE 1, 2,3, 3 MOD AND 4 STATION (47 MAN CAPACITY). DATED SEPTEMBER 20, 1949. 27-05-02. SHEET 2 OF 6. ELEVATION. SECTION.

FIGURE 46. GATE HOUSE FOR TYPE 1, 2,3, 3 MOD AND 4 STATION (47 MAN CAPACITY). DATED SEPTEMBER 20, 1949. 27-05-02. SHEET 2 OF 6. ELEVATION. ELEVATION.

FIGURE 47. GATE HOUSE FOR TYPE 1, 2,3, 3 MOD AND 4 STATION (47 MAN CAPACITY). DATED SEPTEMBER 20, 1949. 27-05-02. SHEET 2 OF 6. ELEVATION. ELEVATION.

FIGURE 48. GATE HOUSE FOR TYPE 1, 2,3, 3 MOD AND 4 STATION (47 MAN CAPACITY). DATED SEPTEMBER 20, 1949. 27-05-02. SHEET 2 OF 6. FLOOR PLAN.

FIGURE 49. OPERATIONS AND MAINTENANCE BUILDING FOR TYPE 2 STATION (47 MAN CAPACITY). DATED OCTOBER 11, 1949. 60-02-23. SHEET 1 OF 18.

FIGURE 50. OPERATIONS AND MAINTENANCE BUILDING FOR TYPE 2 STATION (47 MAN CAPACITY). DATED OCTOBER 11, 1949. 60-02-23. SHEET 1 OF 18. FLOOR PLAN

FIGURE 1. MILL VALLEY RELATED BUILDING #102

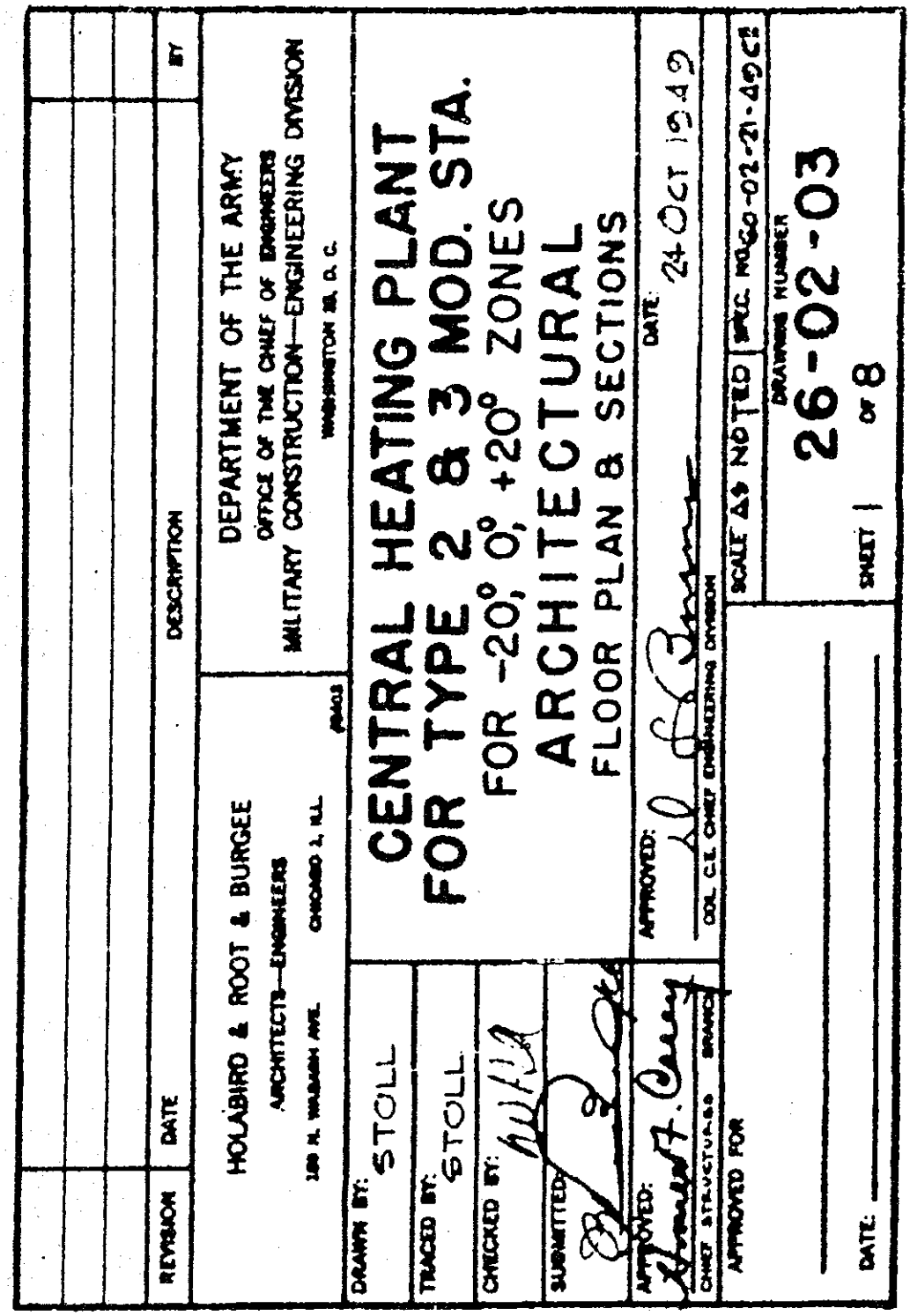


FIGURE 2. MILL VALLEY RELATED BUILDING #102

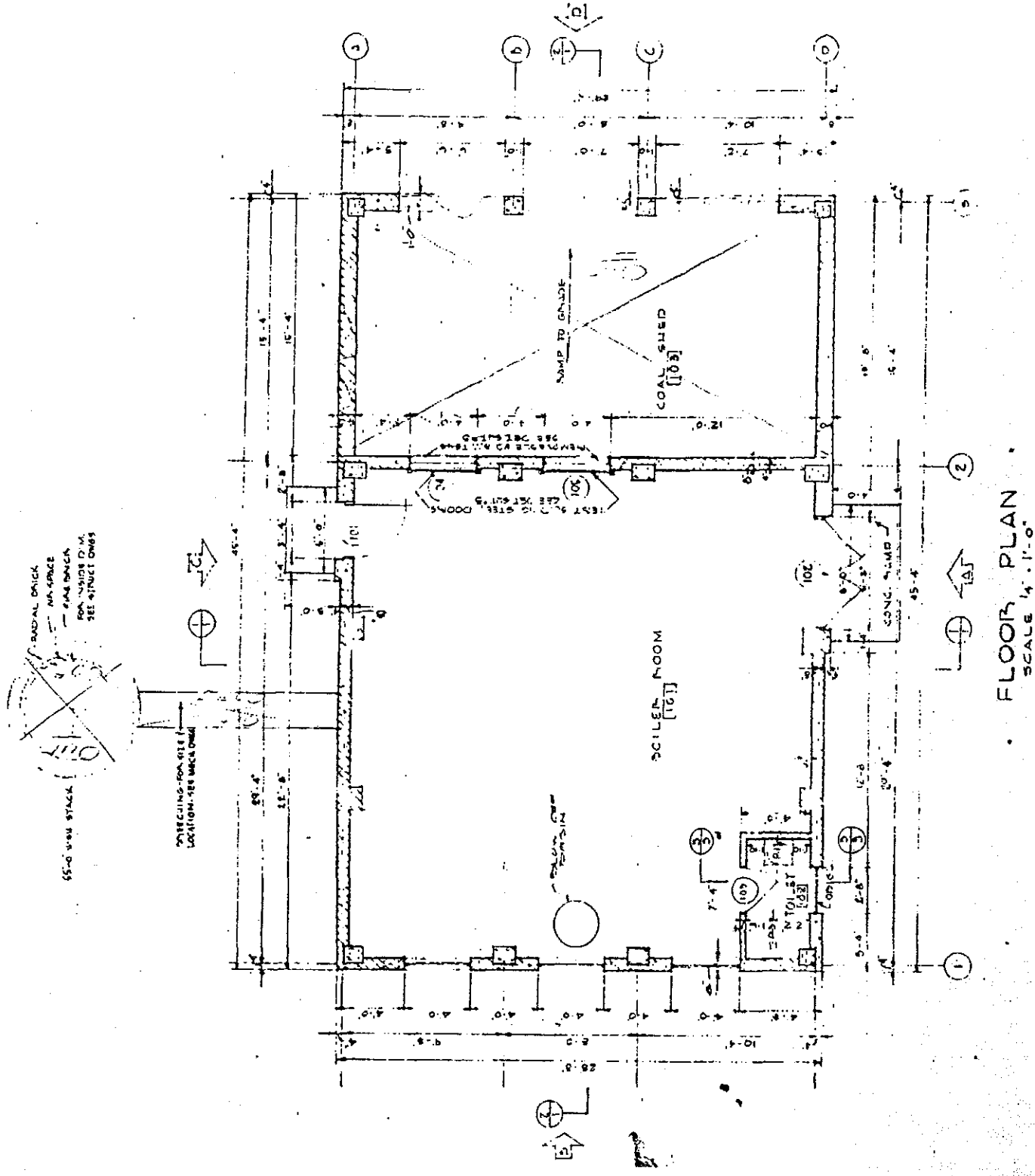


FIGURE 3. MILL VALLEY RELATED BUILDING #102

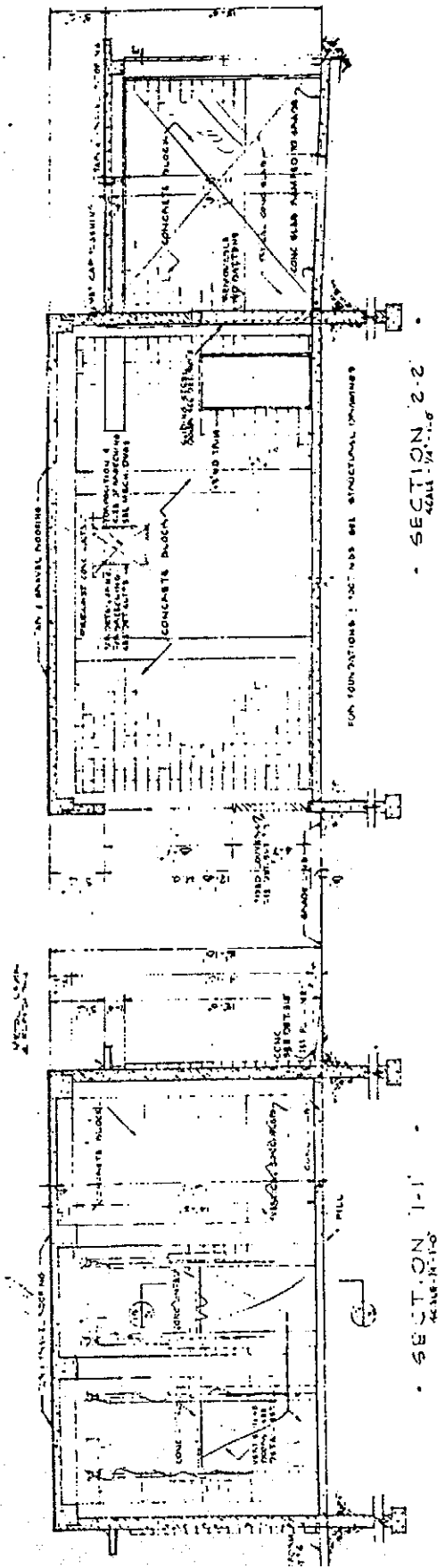


FIGURE 4. MILL VALLEY RELATED BUILDING #102

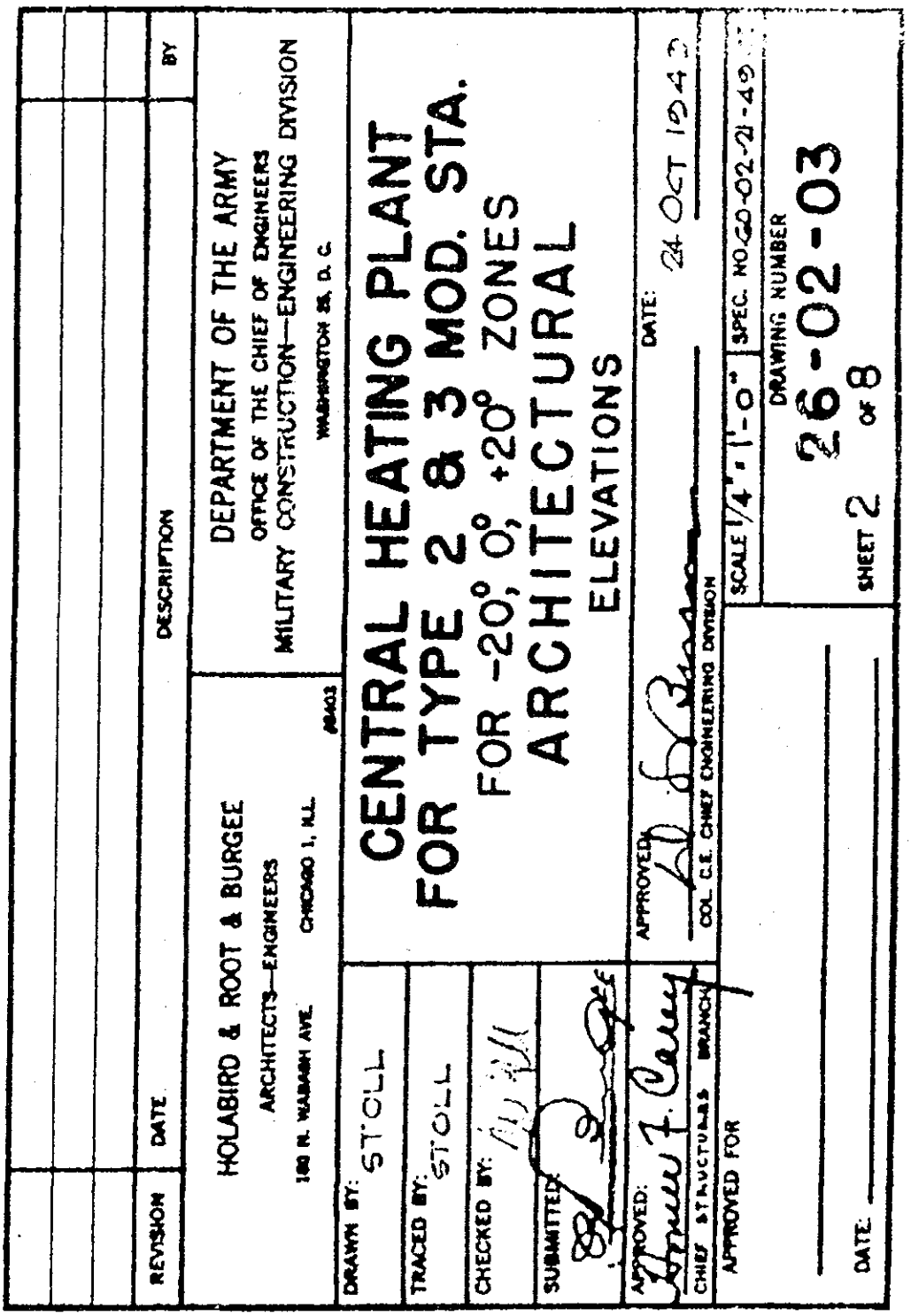


FIGURE 5. MILL VALLEY RELATED BUILDING #102

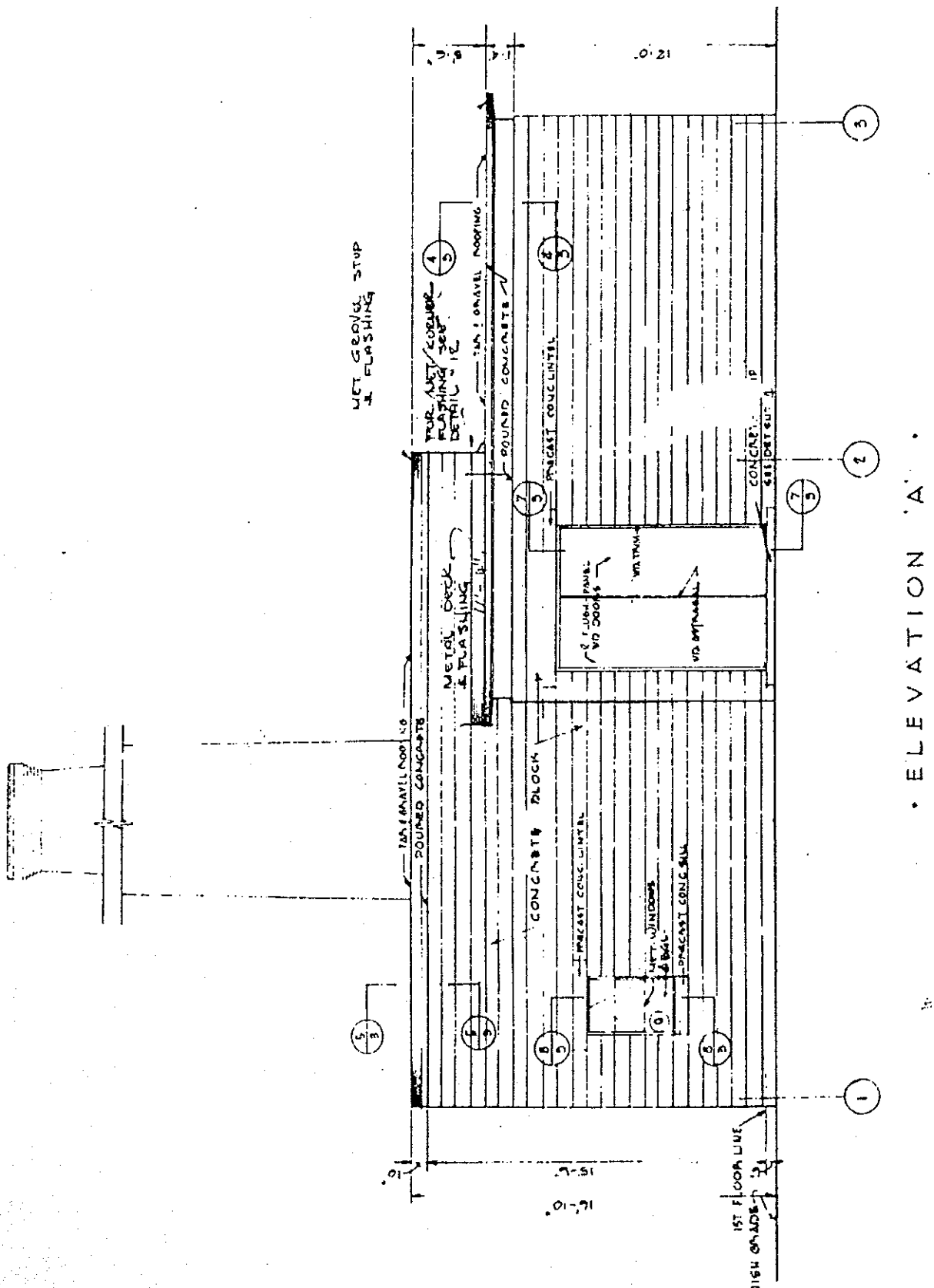


FIGURE 6. MILL VALLEY RELATED BUILDING #102

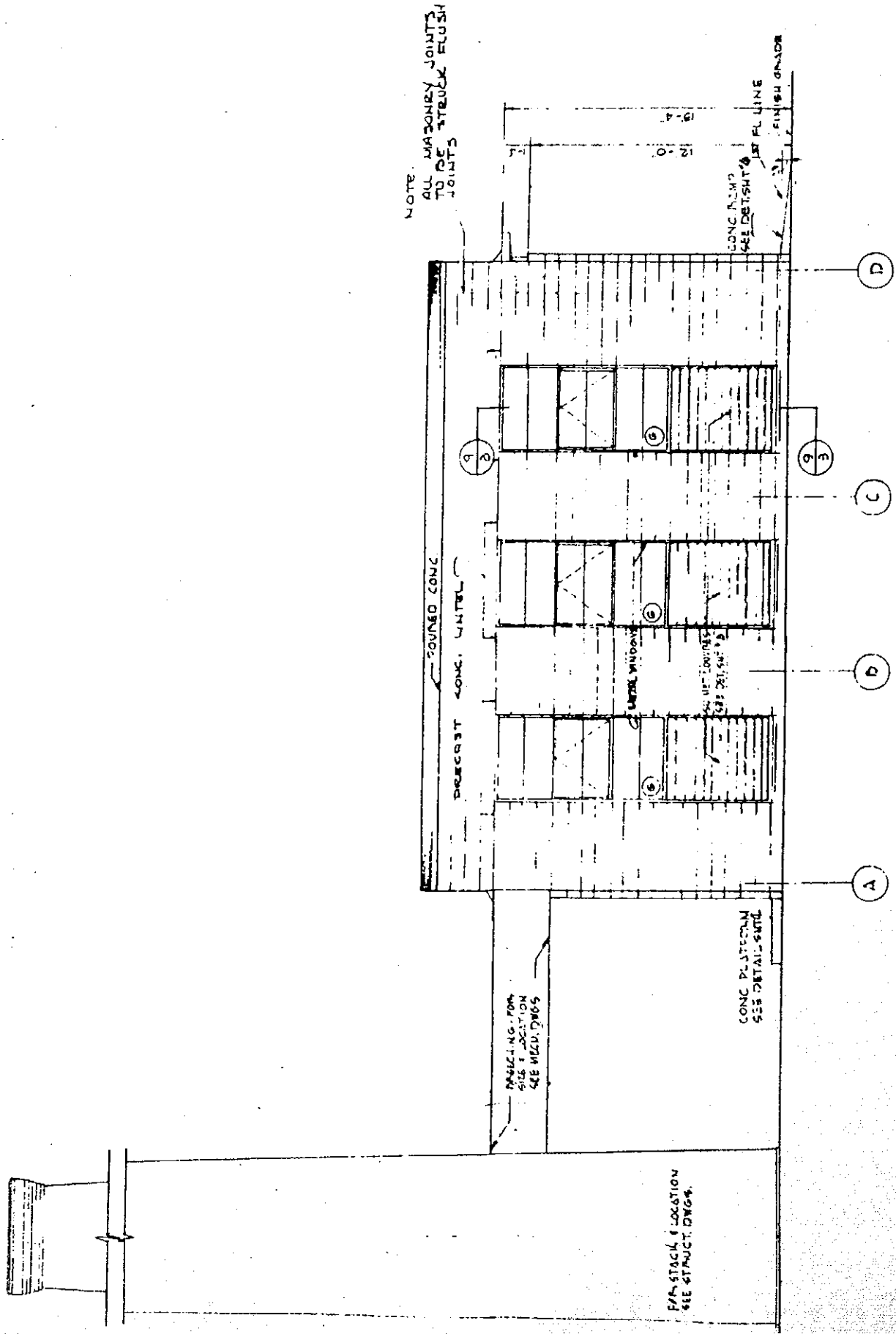


FIGURE 7. MILL VALLEY RELATED BUILDING #102

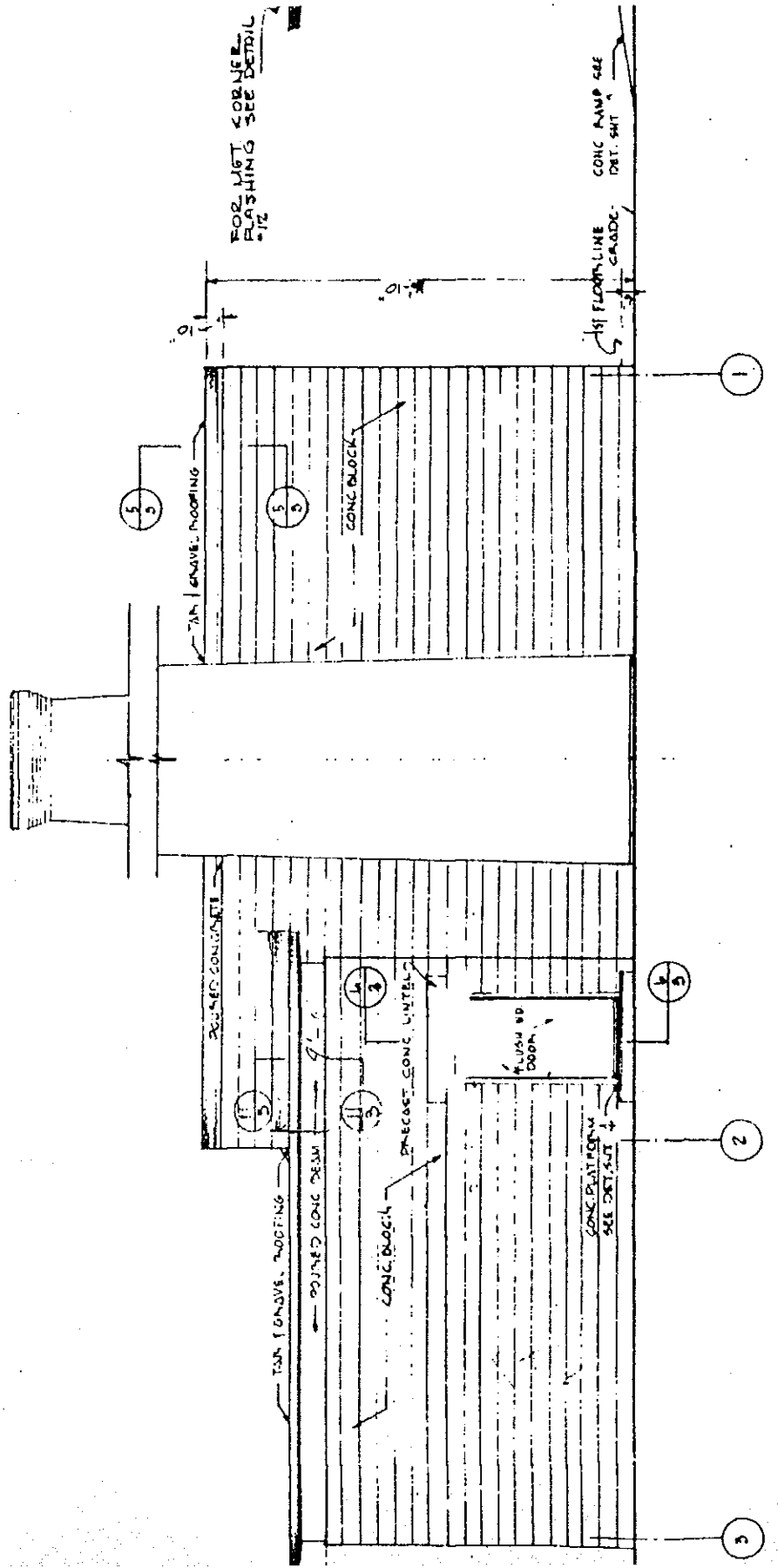


FIGURE 8. MILL VALLEY RELATED BUILDING #102

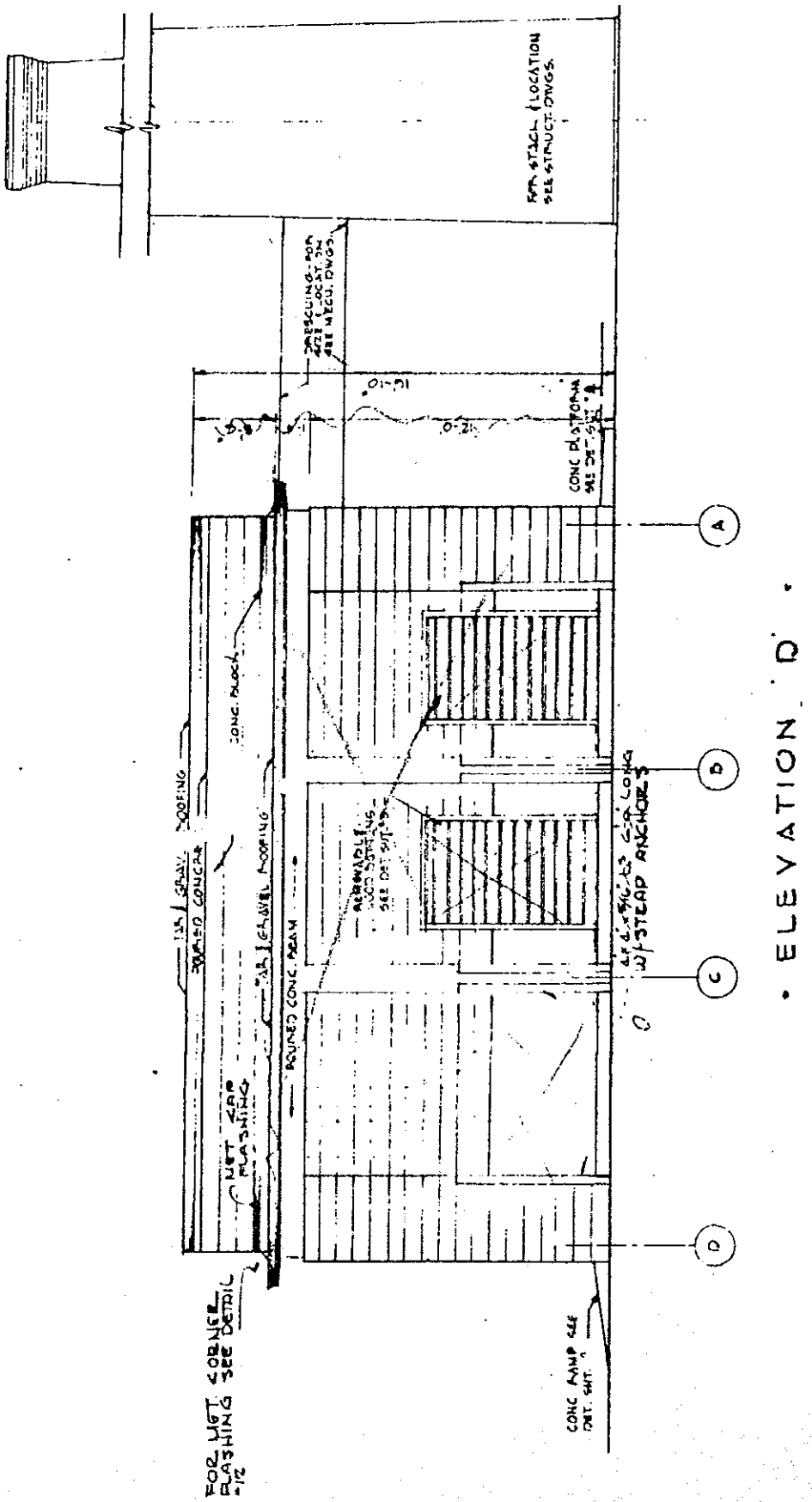


FIGURE 9. MILL VALLEY RELATED BUILDING #202

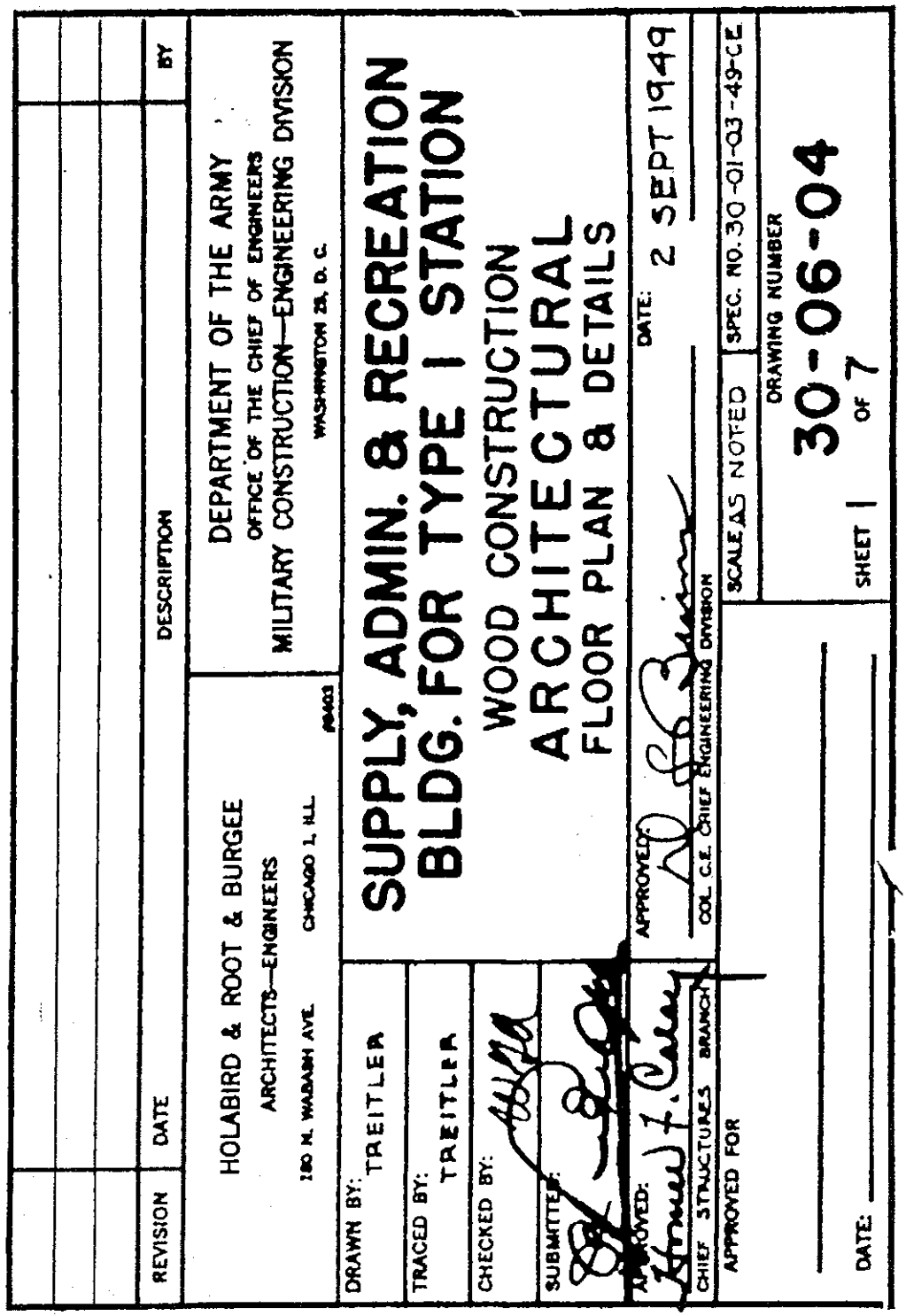


FIGURE 10. MILL VALLEY RELATED BUILDING #202

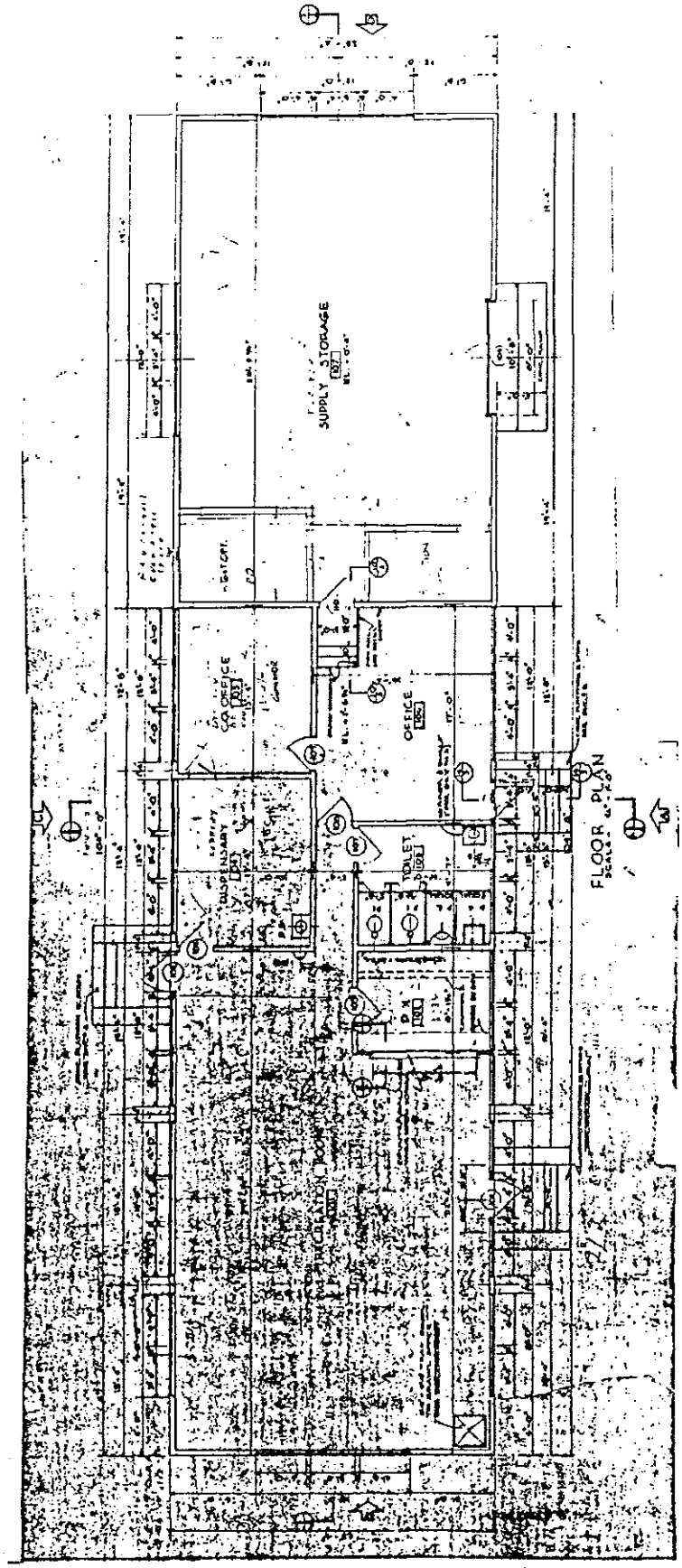


FIGURE 11. MILL VALLEY RELATED BUILDING #202

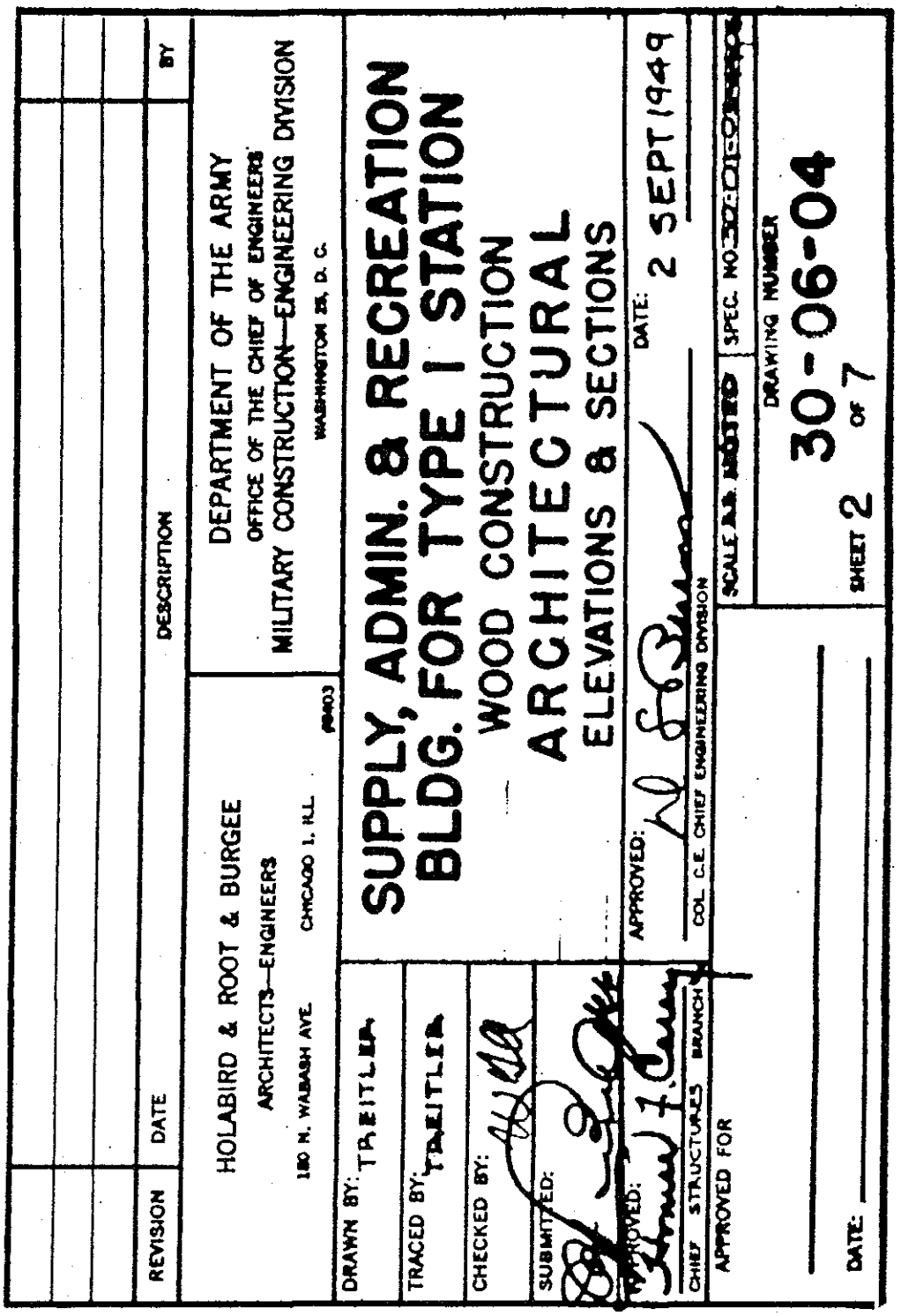


FIGURE 12. MILL VALLEY RELATED BUILDING #202

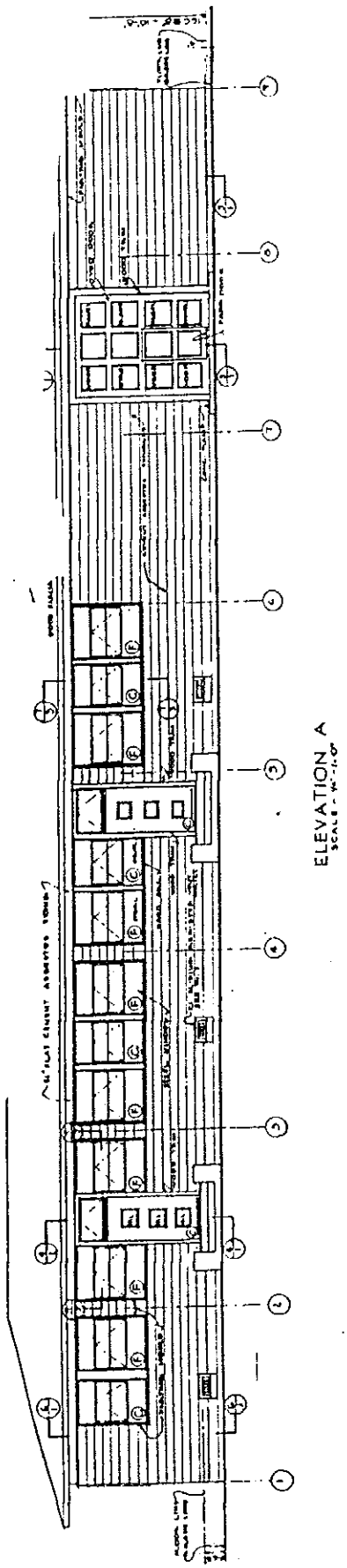


FIGURE 13. MILL VALLEY RELATED BUILDING #202

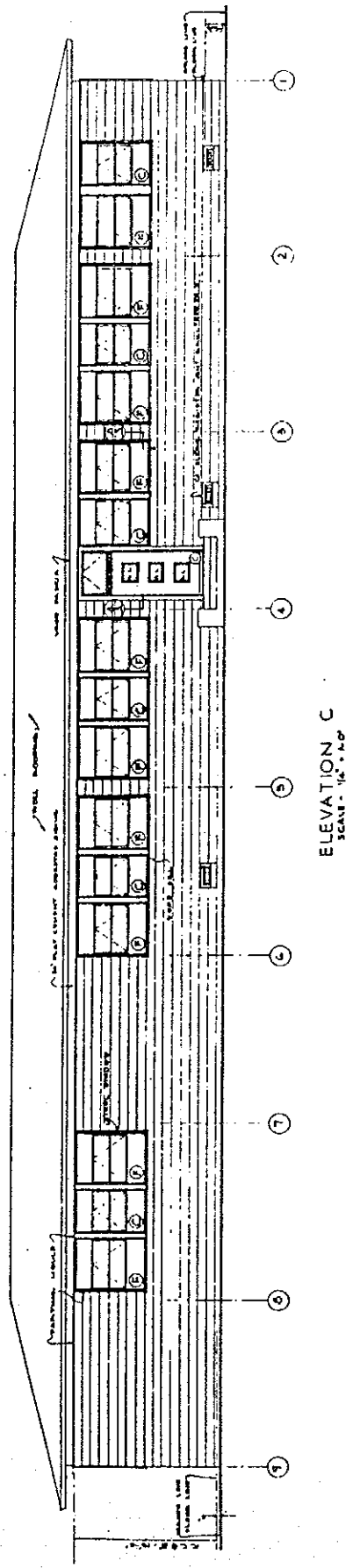


FIGURE 14. MILL VALLEY RELATED BUILDING #202

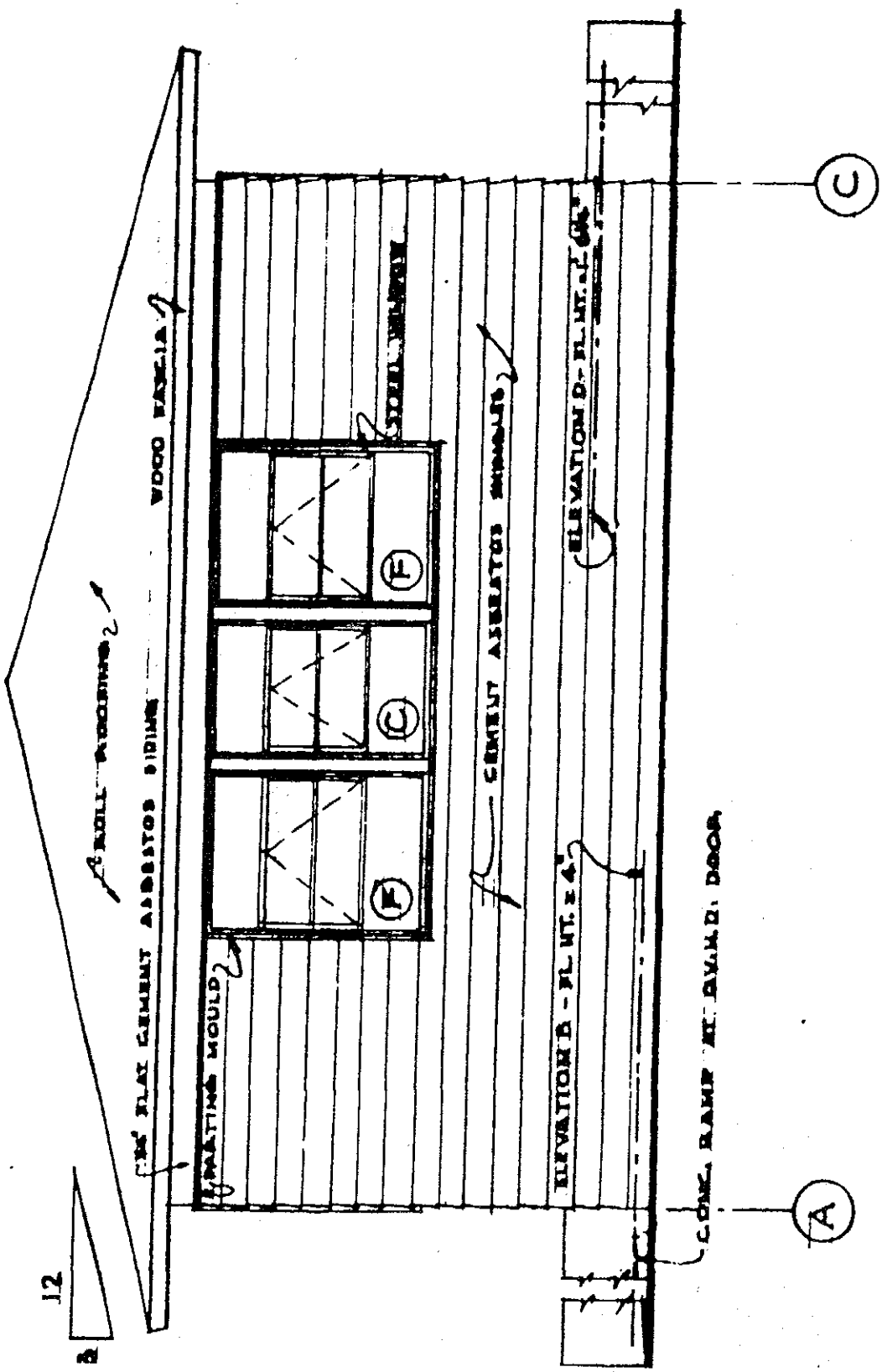


FIGURE 15. MILL VALLEY RELATED BUILDING #202

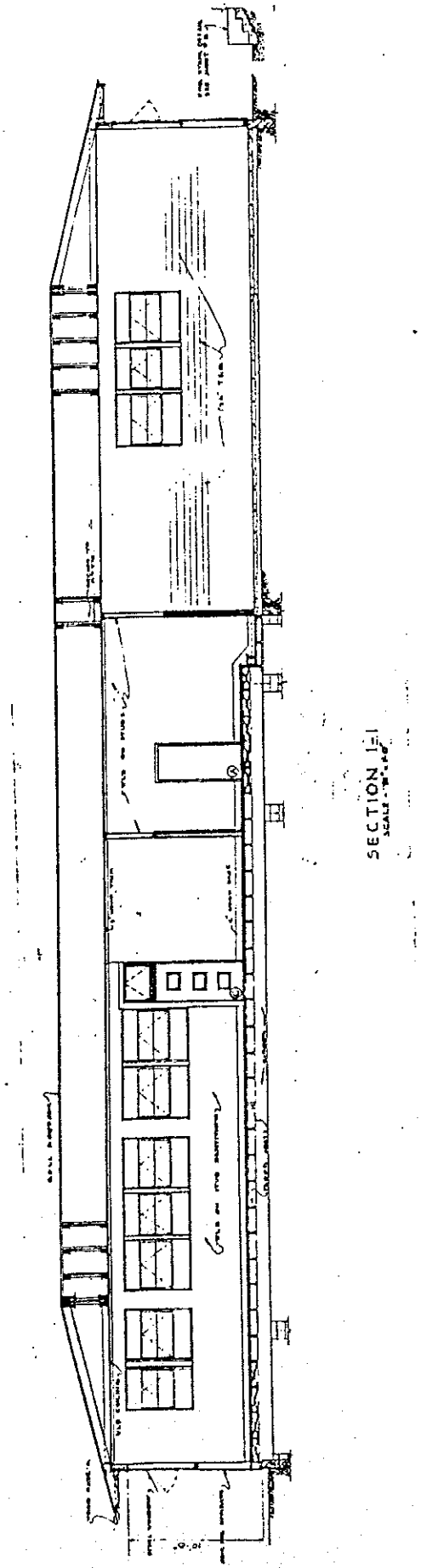


FIGURE 16. MILL VALLEY RELATED BUILDING #'S 208, 214, 216, 218

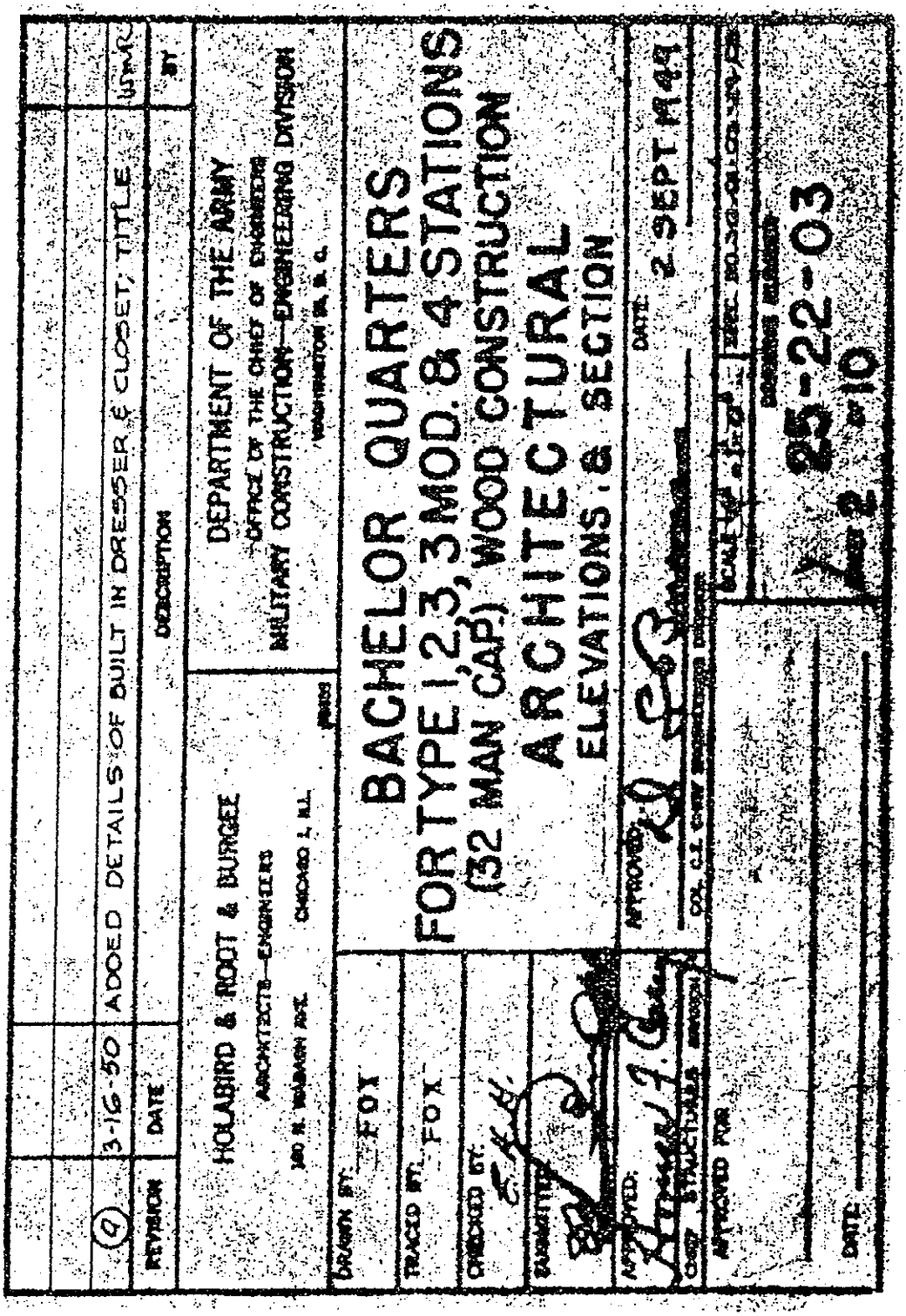


FIGURE 17. MILL VALLEY RELATED BUILDING #'S 208, 214, 216, 218

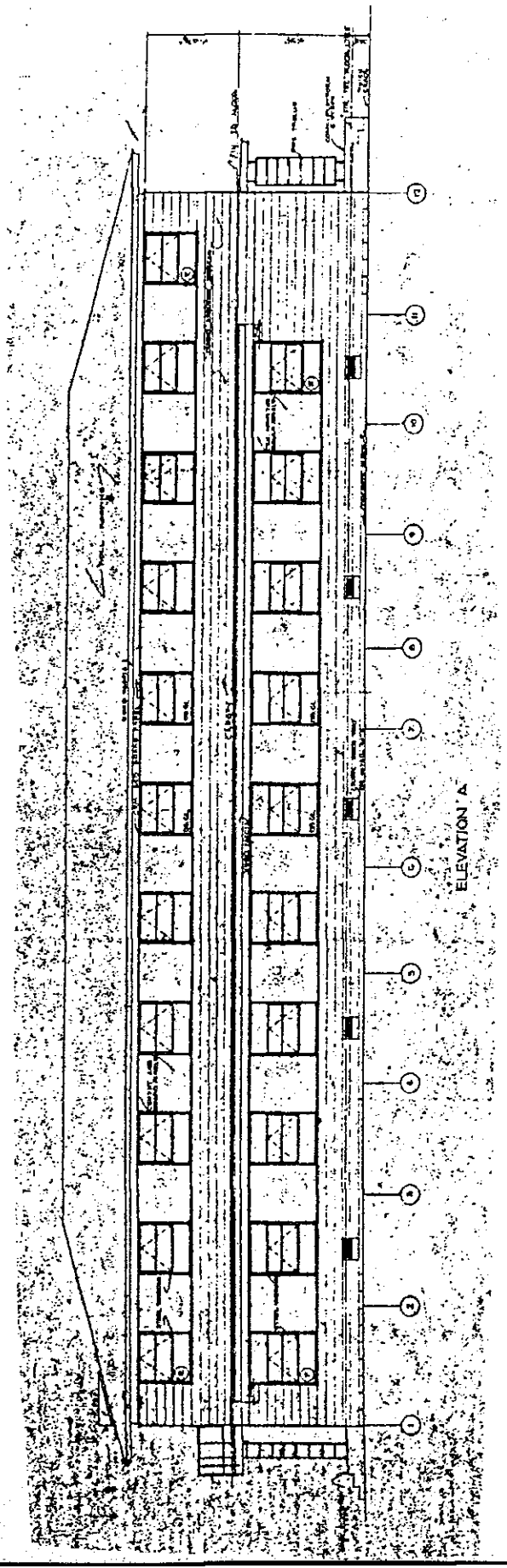


FIGURE 18. MILL VALLEY RELATED BUILDING #'S 208, 214, 216, 218

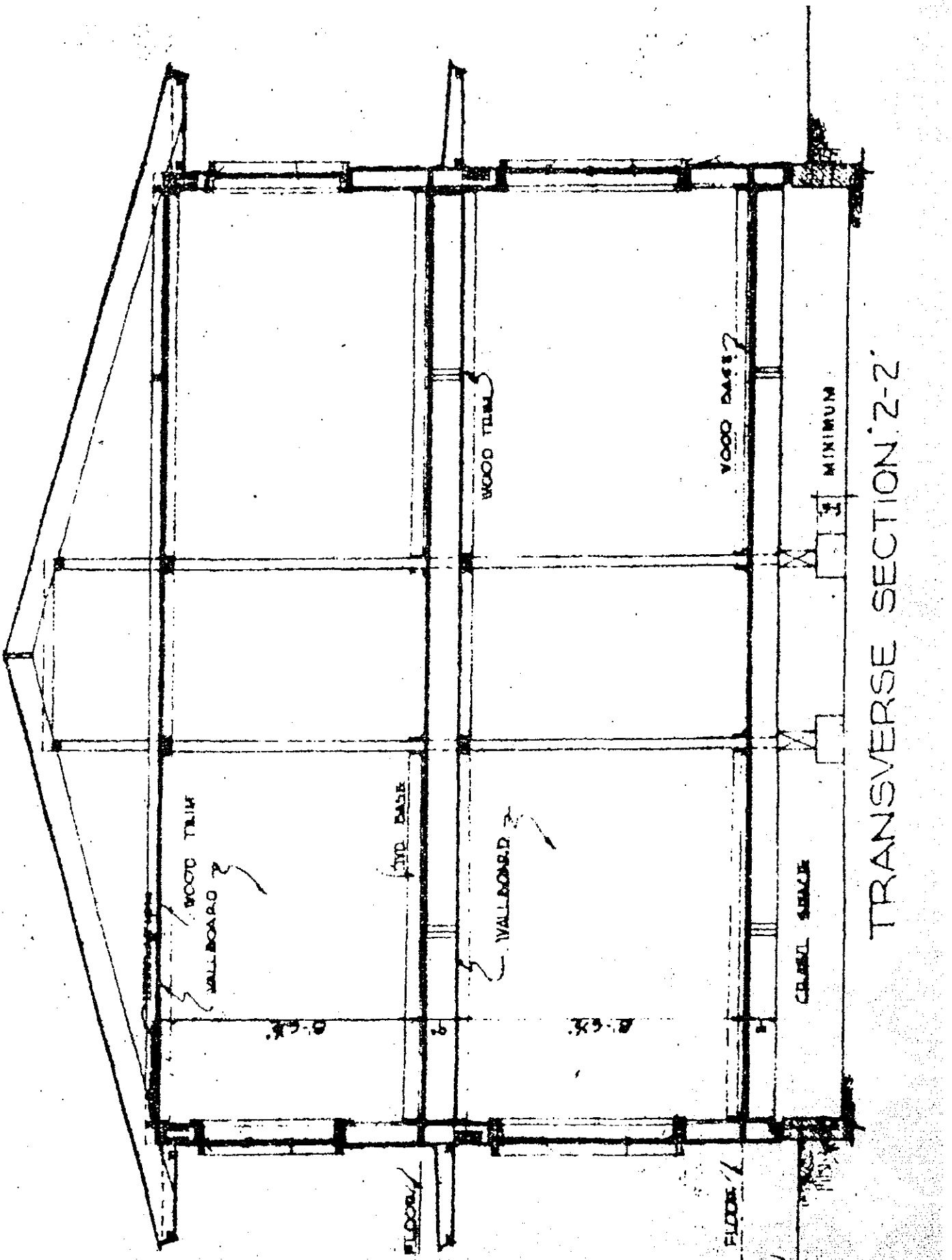


FIGURE 19. MILL VALLEY RELATED BUILDING #'S 208, 214, 216, 218

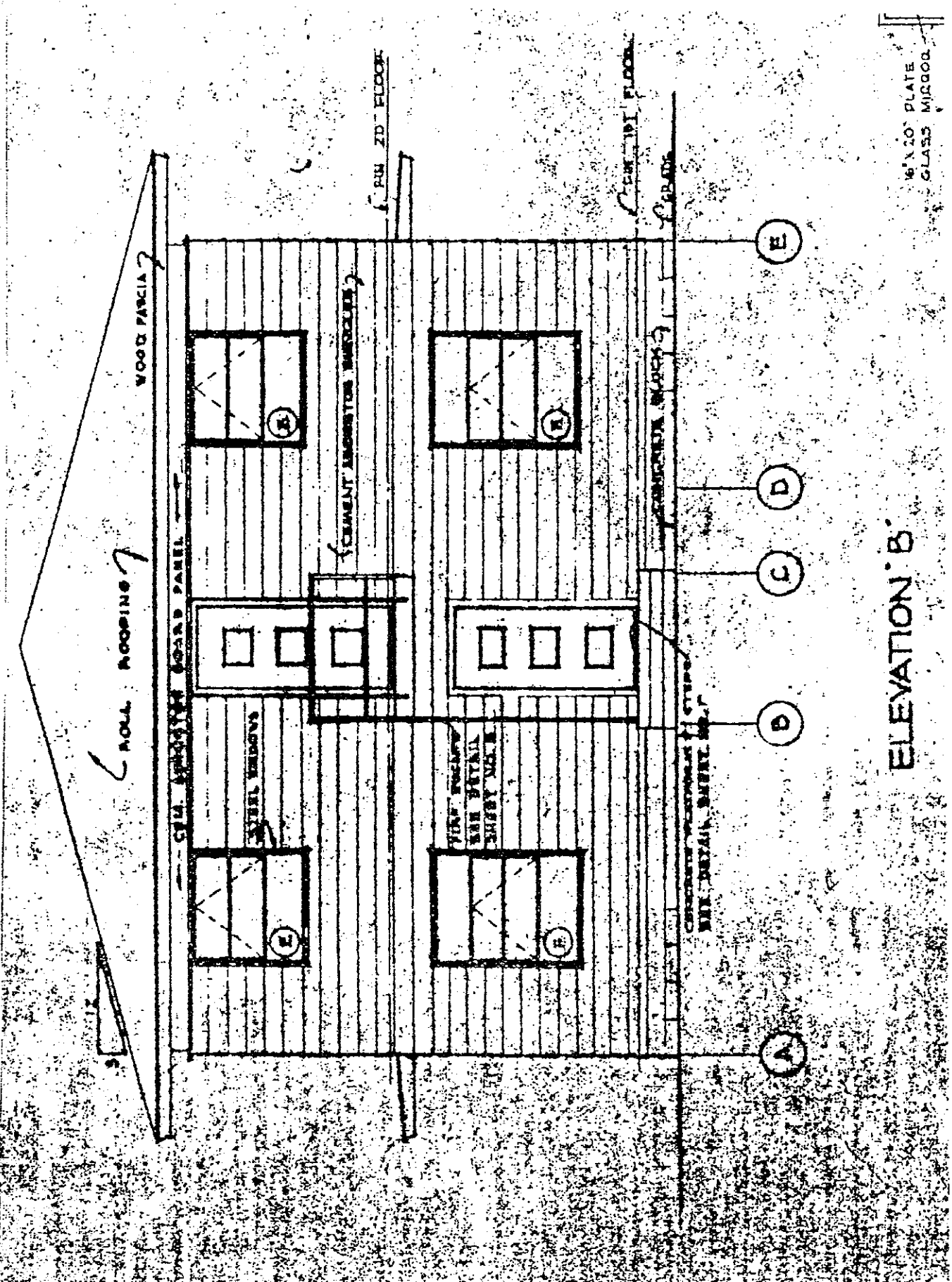


FIGURE 20. MILL VALLEY RELATED BUILDING #'S 208, 214, 216, 218

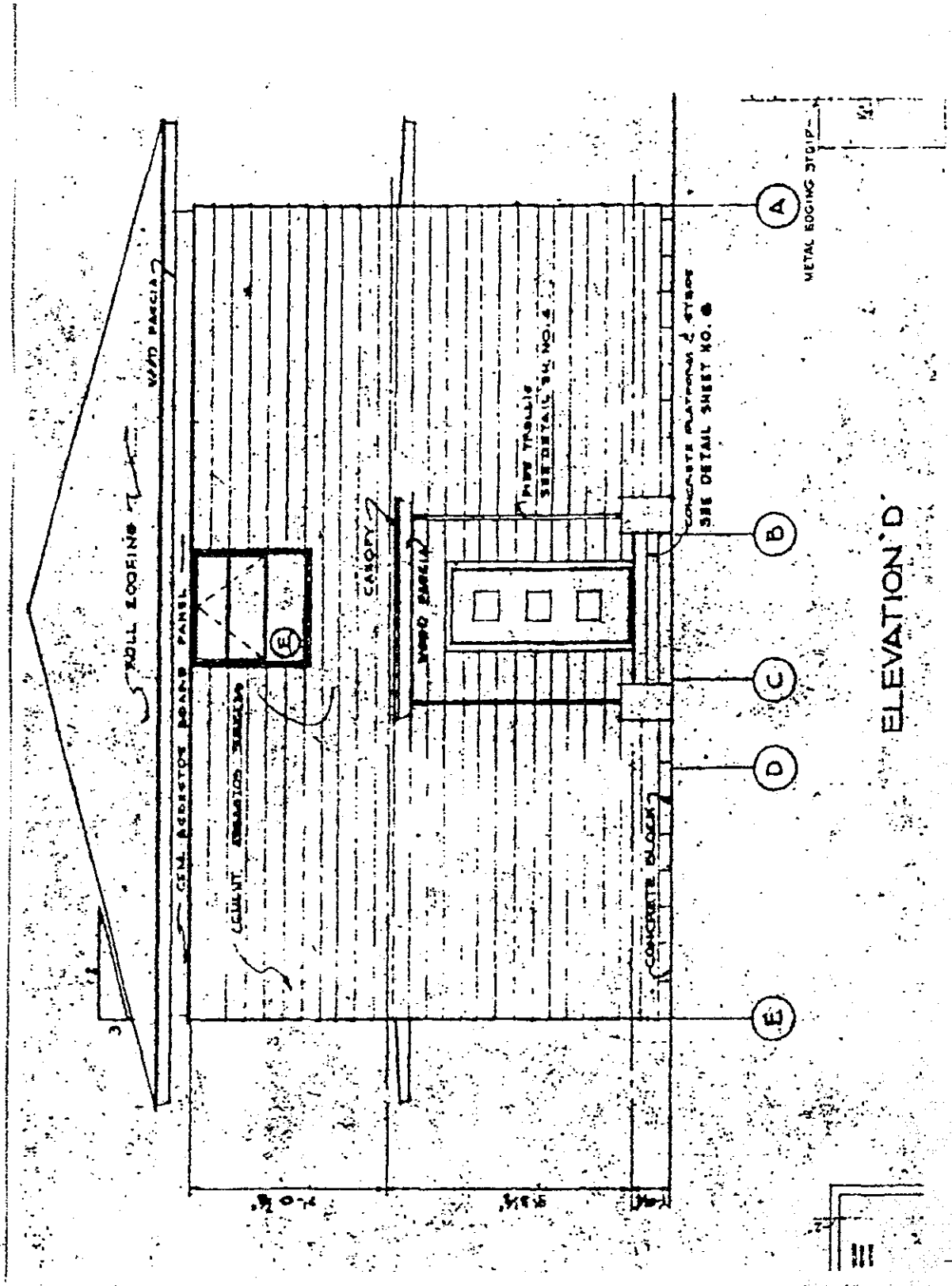


FIGURE 21. MILL VALLEY RELATED BUILDING #'S 208, 214, 216, 218

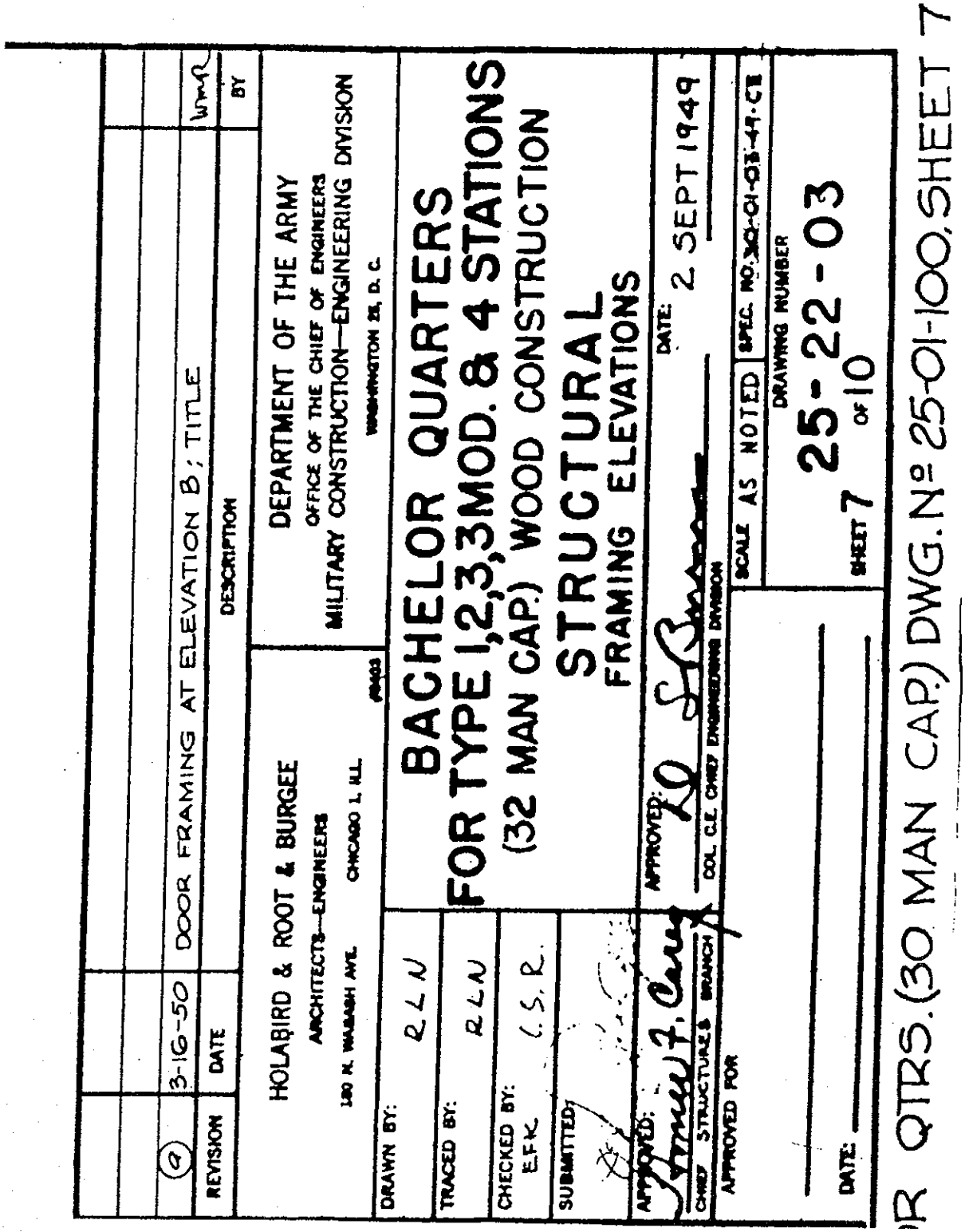


FIGURE 22. MILL VALLEY RELATED BUILDING #'S 208, 214, 216, 218

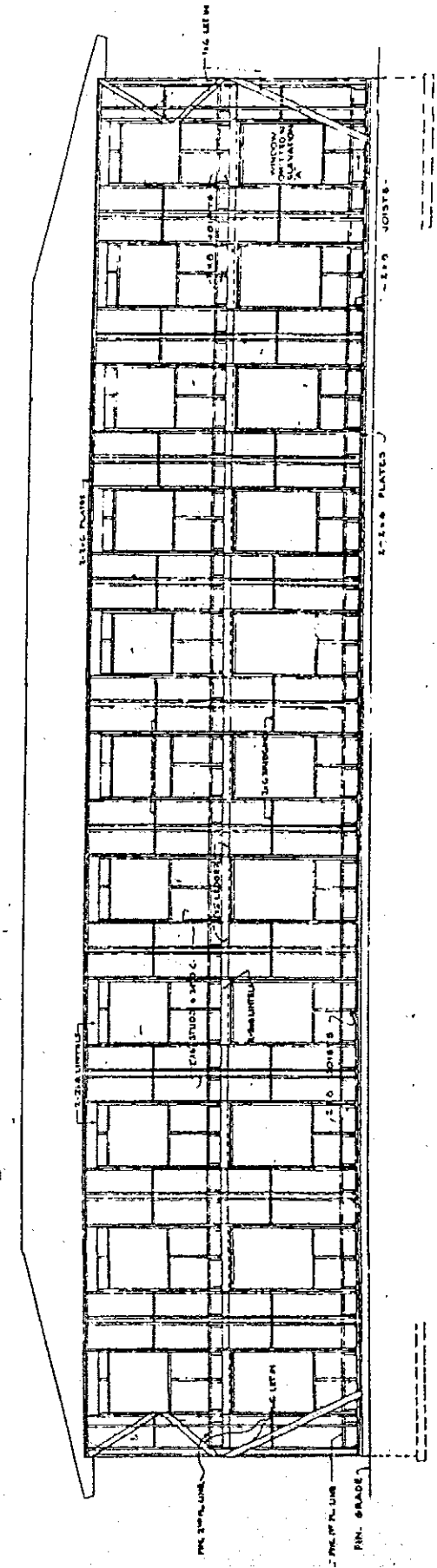


FIGURE 23. MILL VALLEY RELATED BUILDING #'S 208, 214, 216, 218

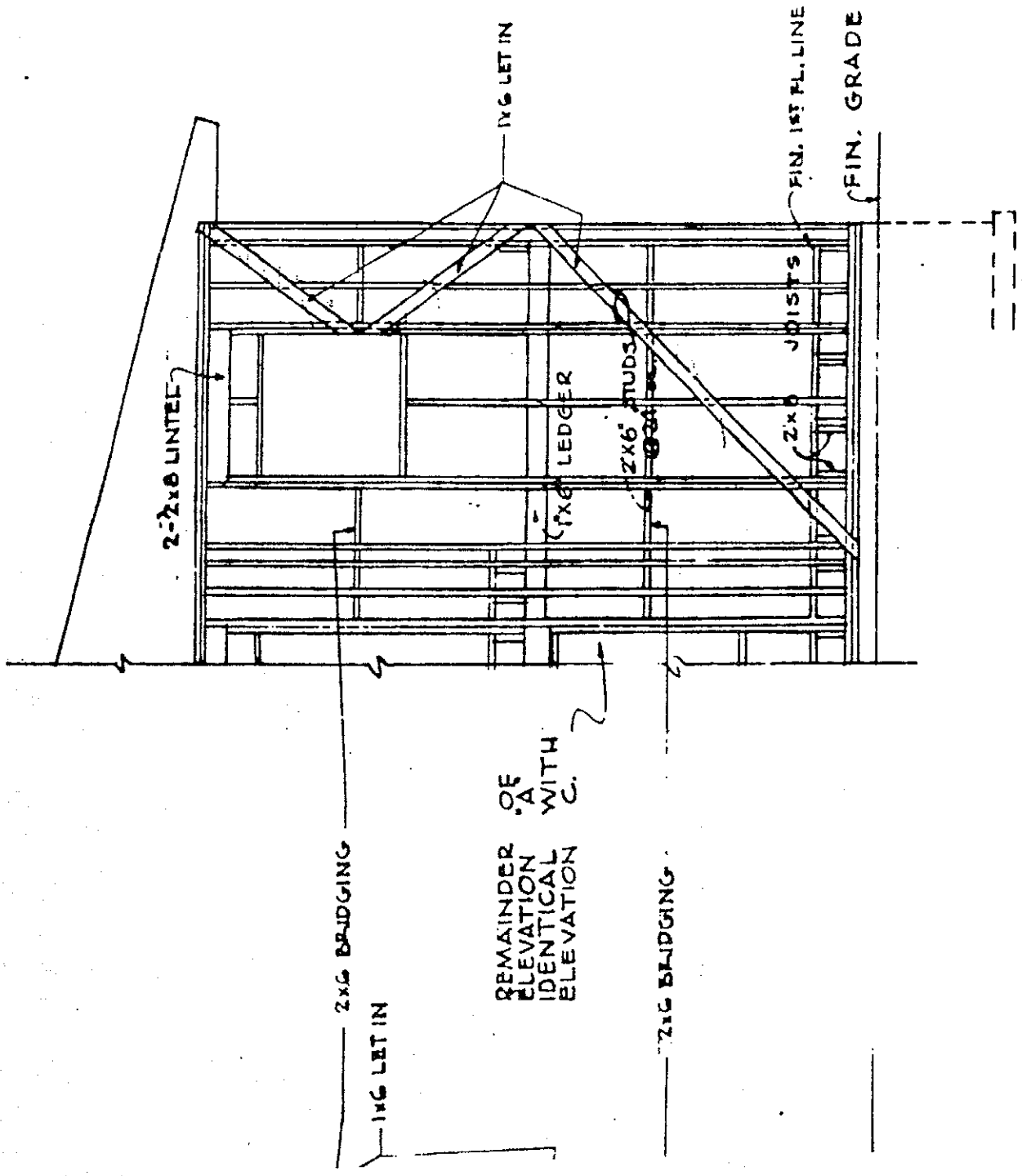


FIGURE 24. MILL VALLEY RELATED BUILDING #'S 208, 214, 216, 218

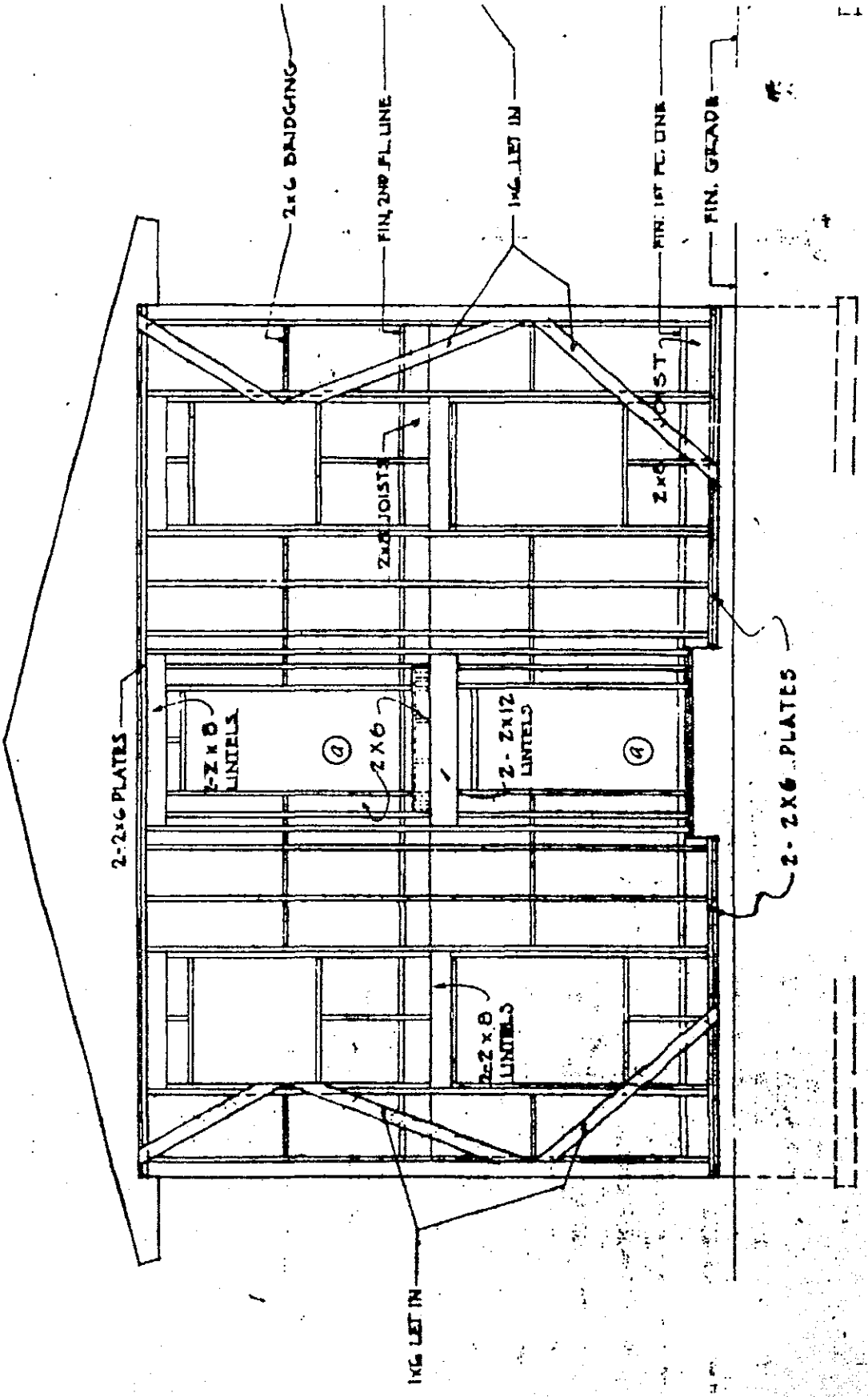


FIGURE 25. MILL VALLEY RELATED BUILDING #'S 208, 214, 216, 218

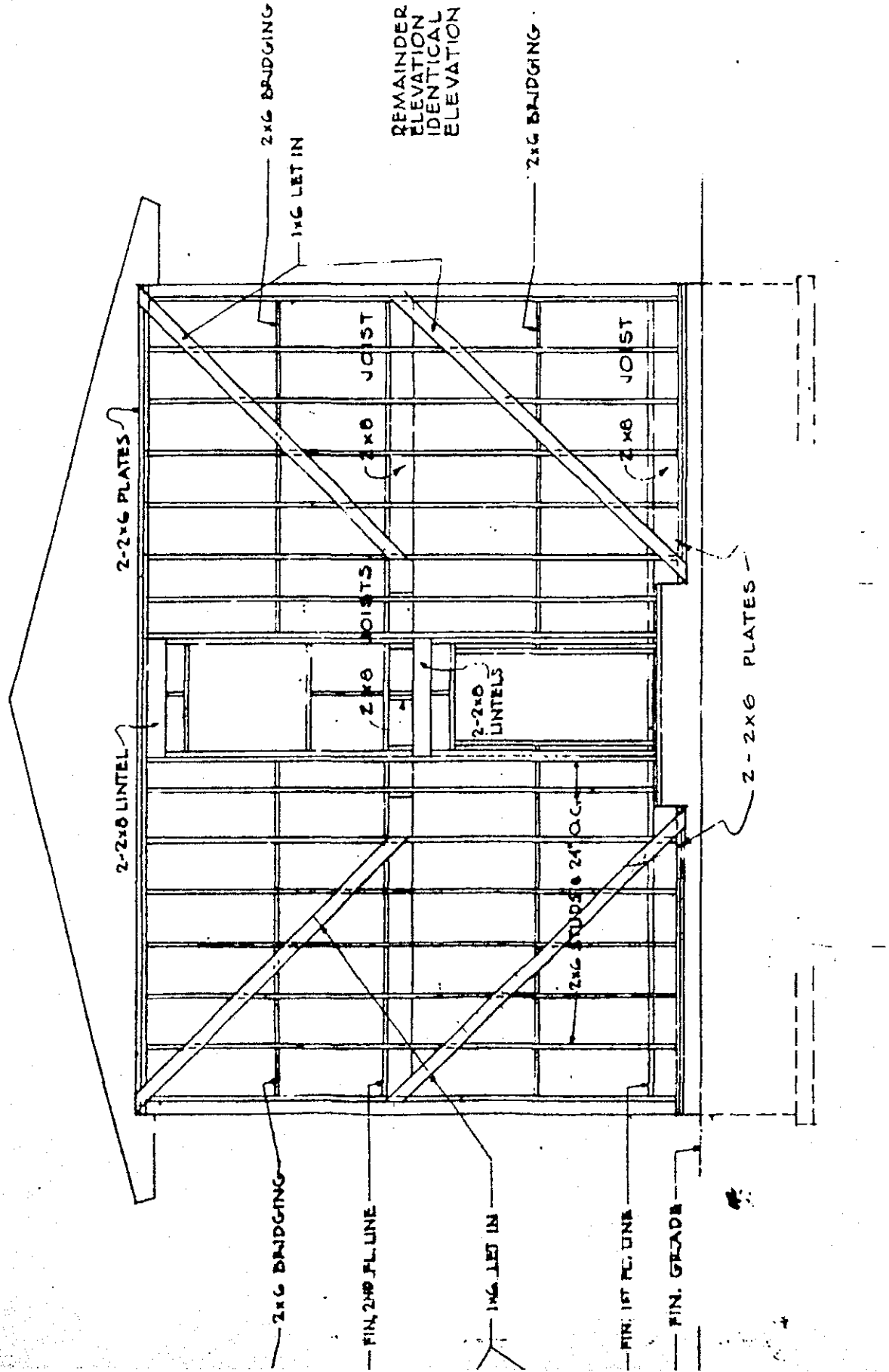


FIGURE 26. MILL VALLEY RELATED BUILDING #'S 208, 214, 216, 218

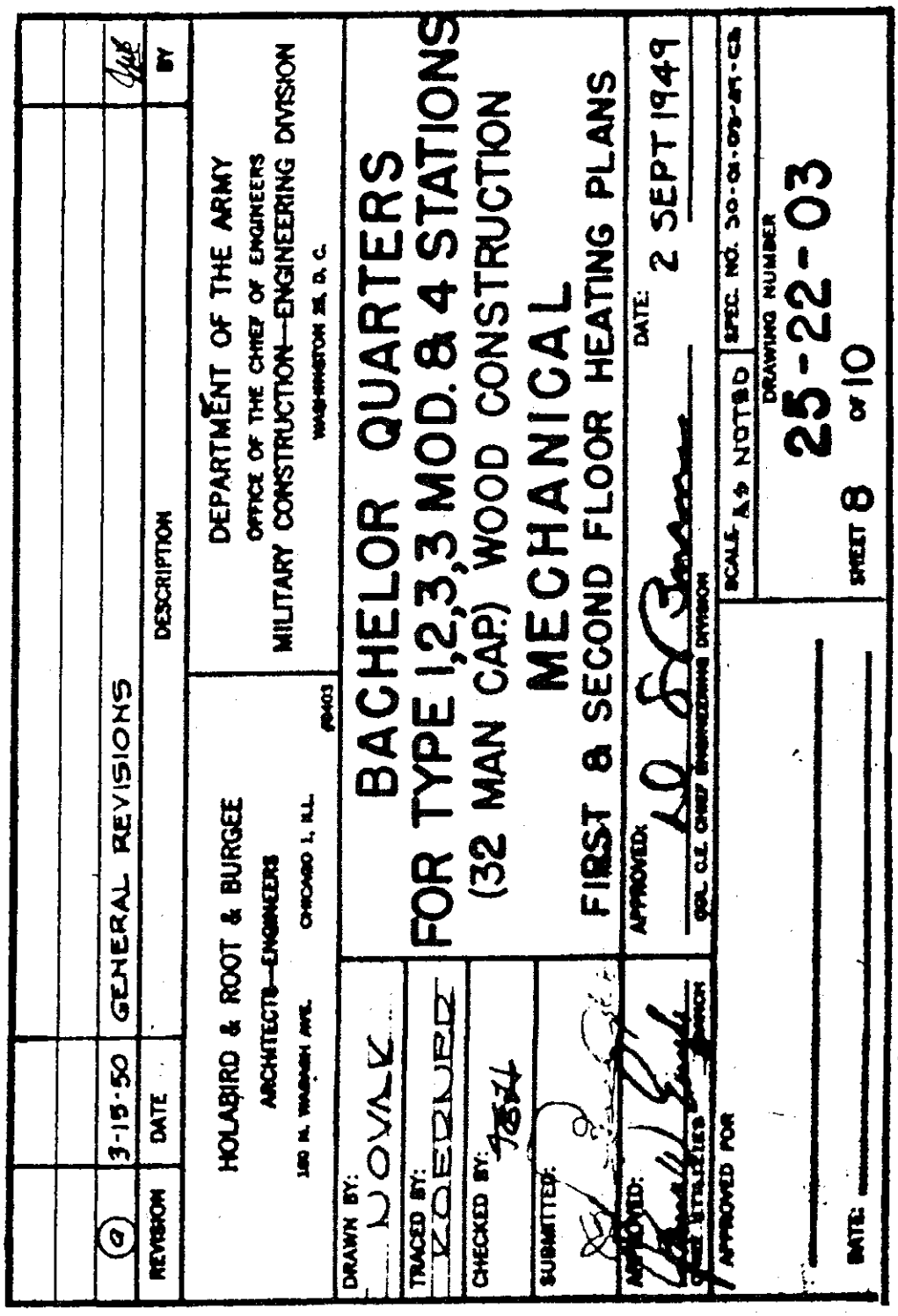


FIGURE 27. MILL VALLEY RELATED BUILDING #'S 208, 214, 216, 218

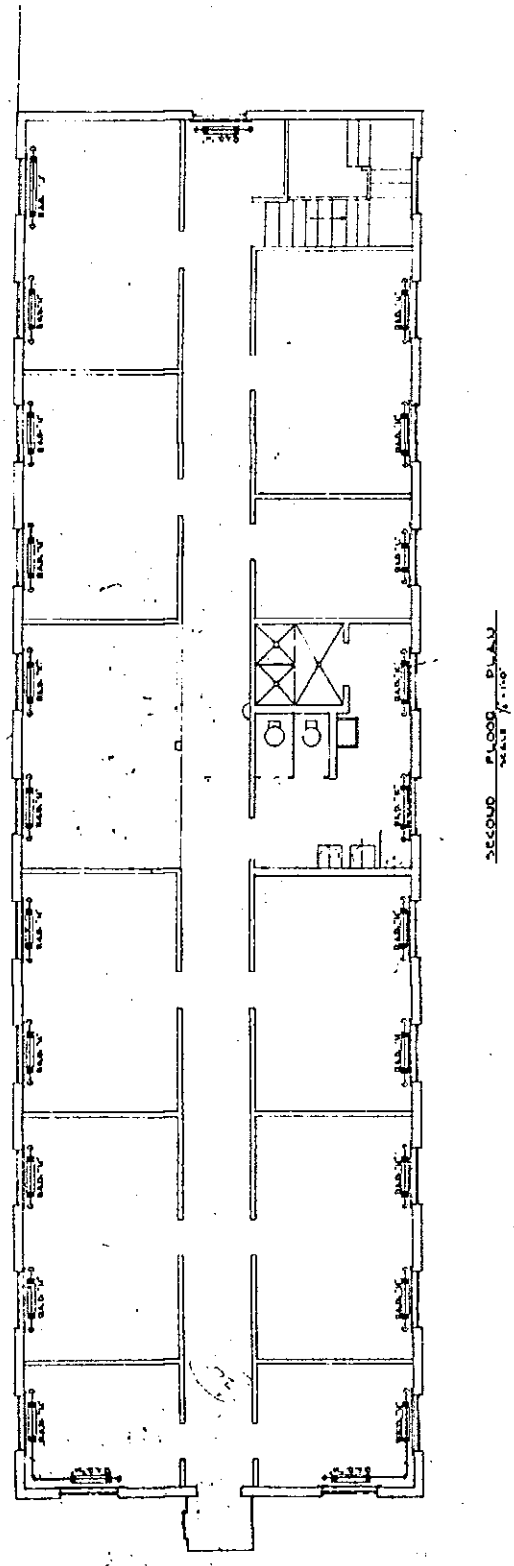


FIGURE 28. MILL VALLEY RELATED BUILDING #'S 208, 214, 216, 218

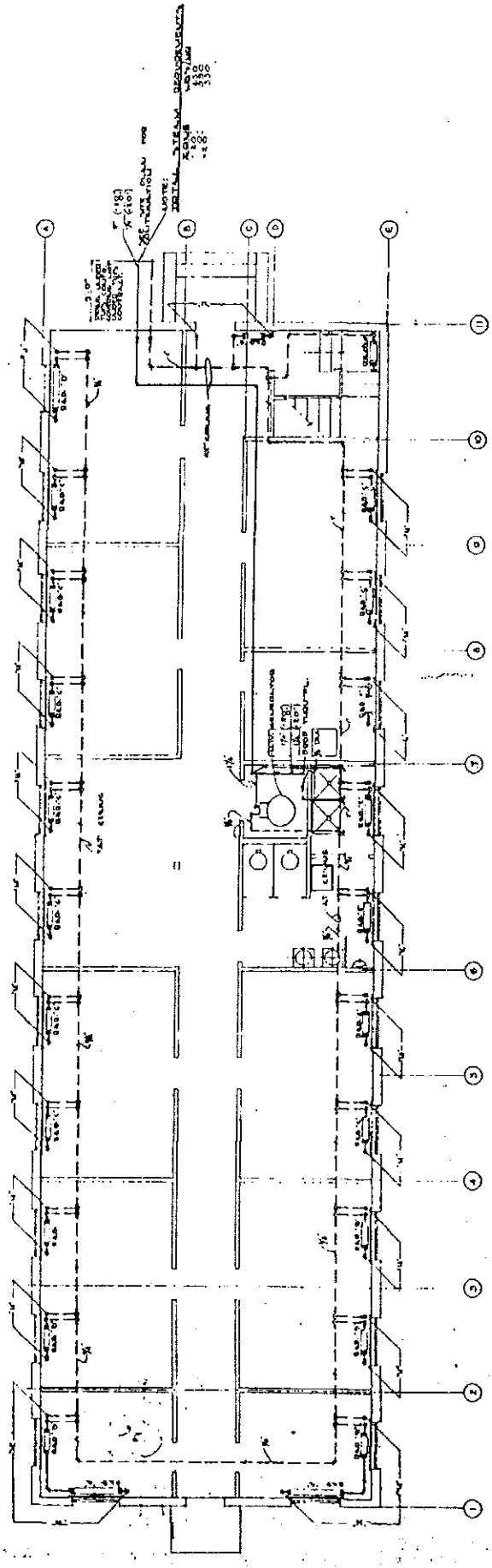


FIGURE 29. MILL VALLEY RELATED BUILDING #'S 208, 214, 216, 218

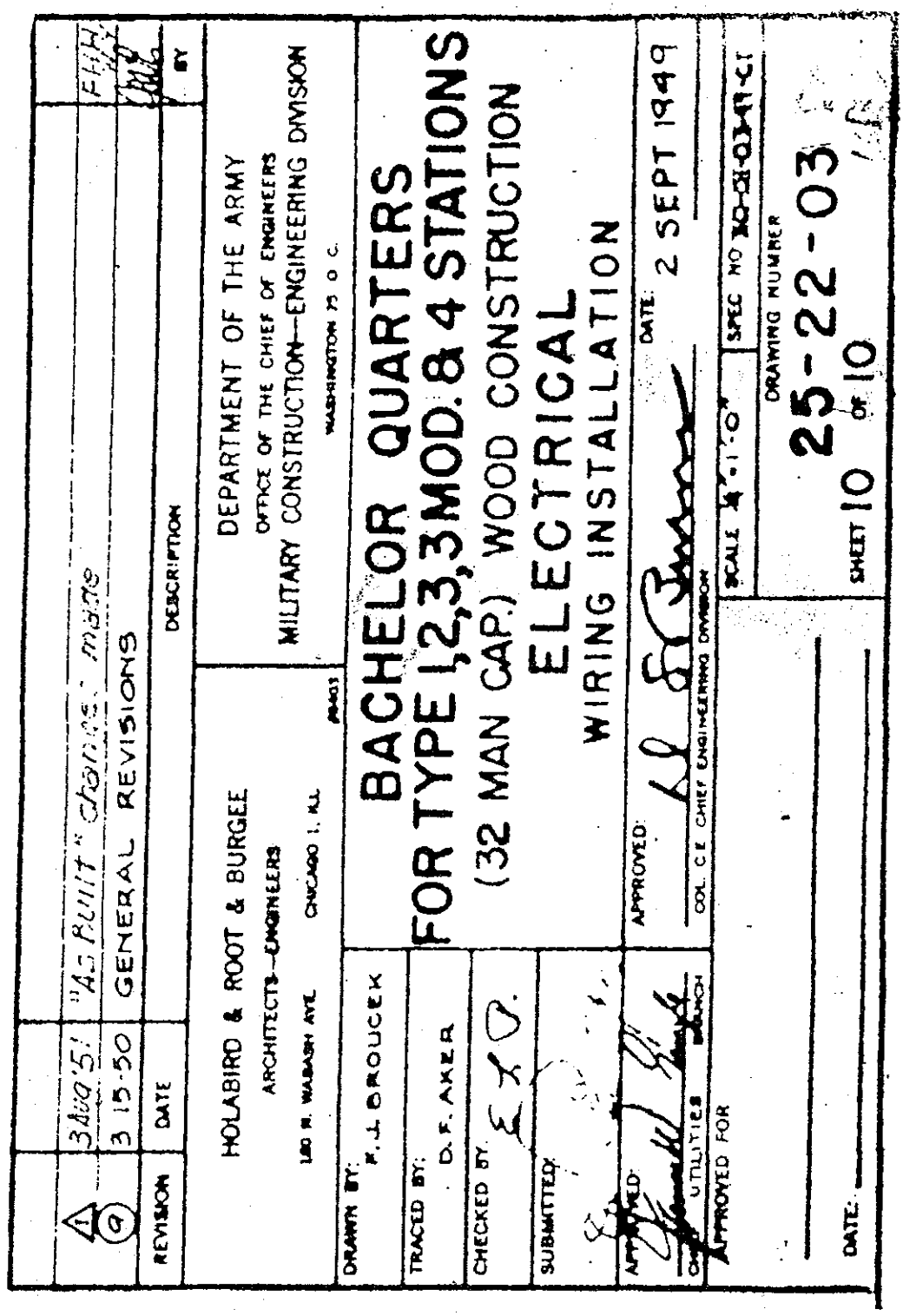


FIGURE 30. MILL VALLEY RELATED BUILDING #'S 208, 214, 216, 218

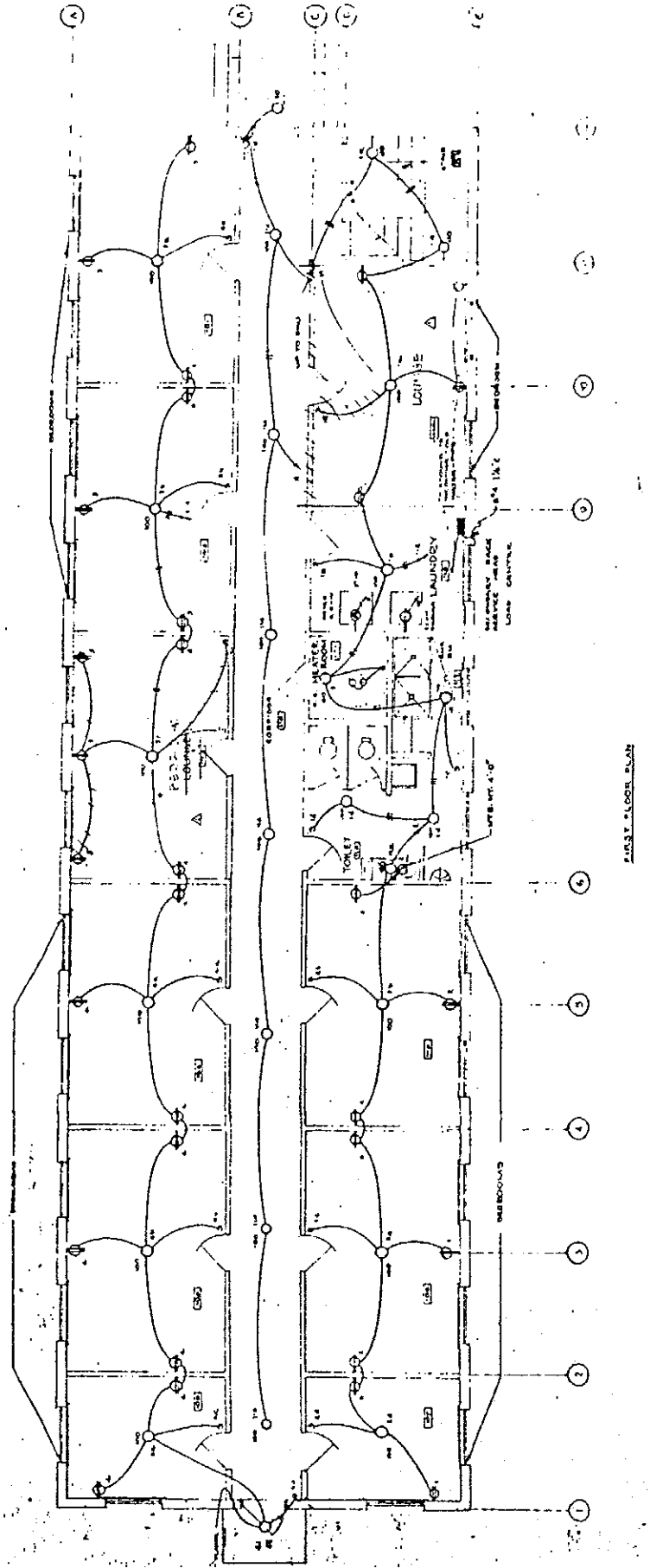


FIGURE 31. MILL VALLEY RELATED BUILDING #'S 208, 214, 216, 218

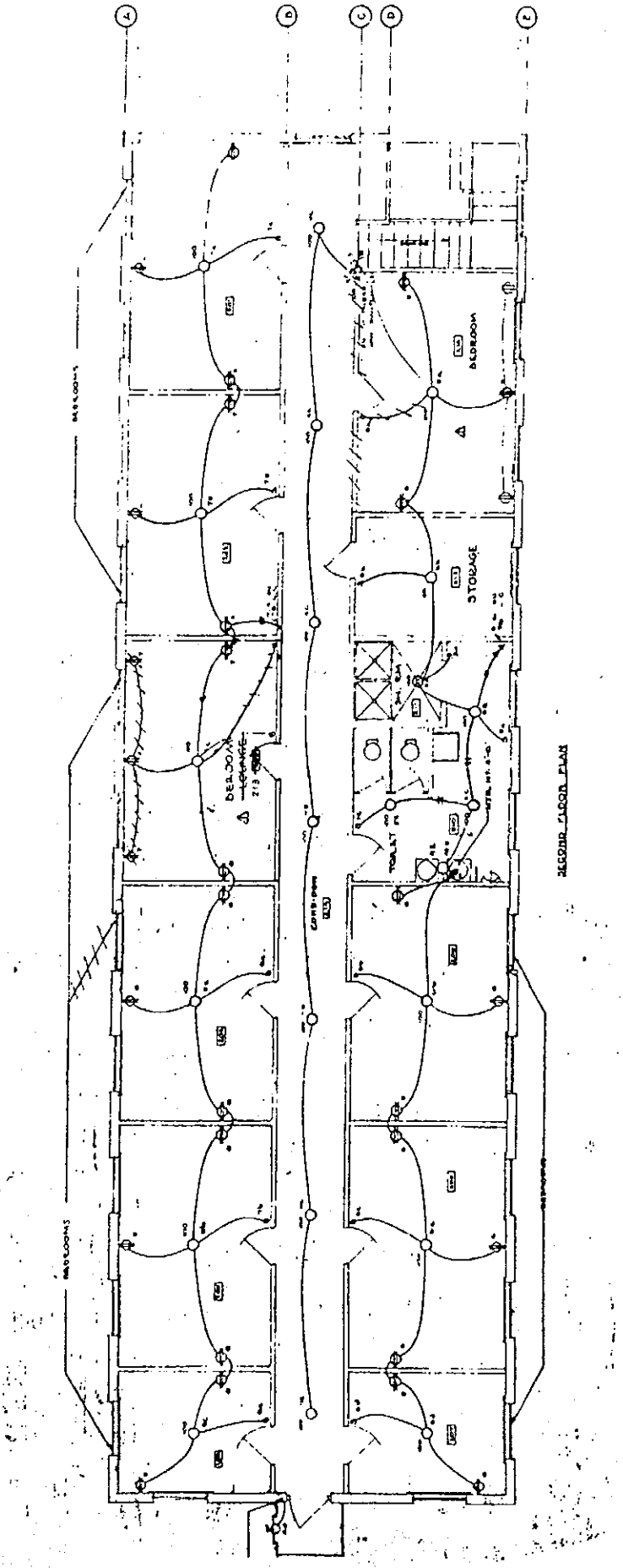


FIGURE 32. MILL VALLEY RELATED BUILDING #'s 218 or 220

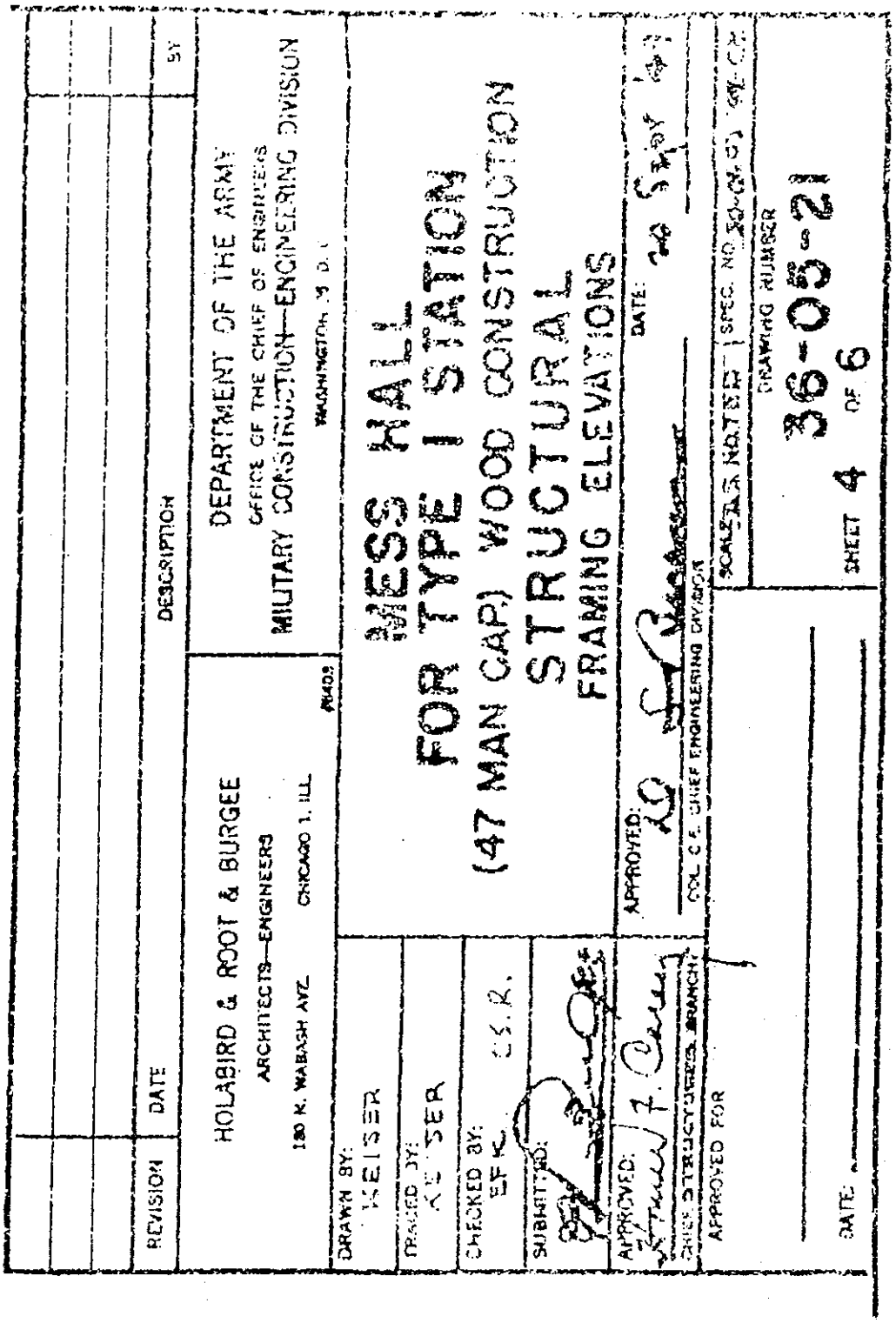


FIGURE 33. MILL VALLEY RELATED BUILDING #'s 218 or 220

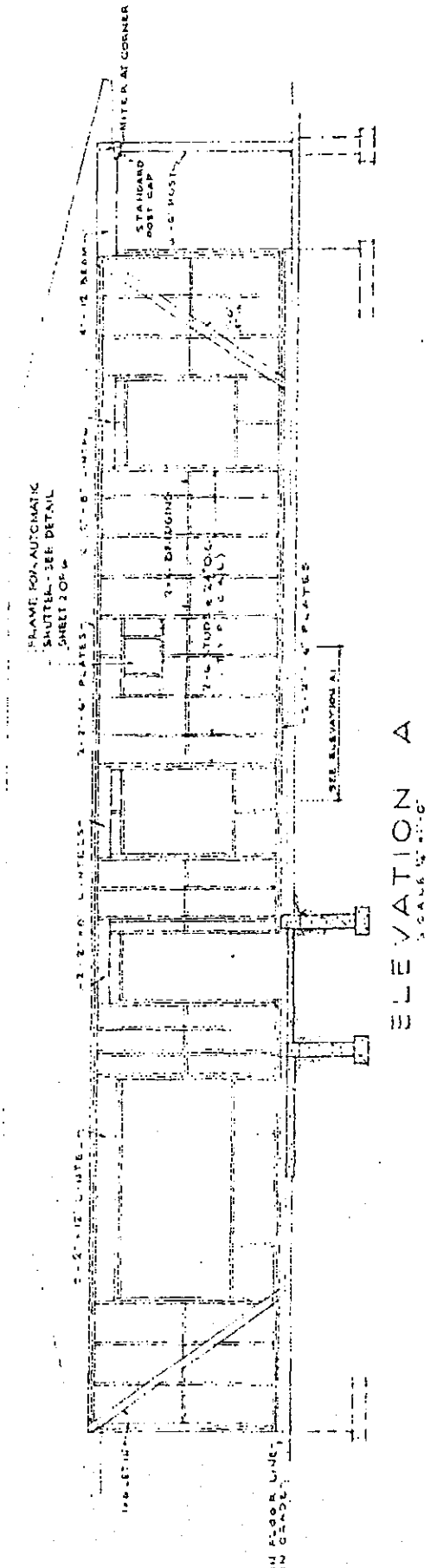


FIGURE 34. MILL VALLEY RELATED BUILDING #'s 218 or 220

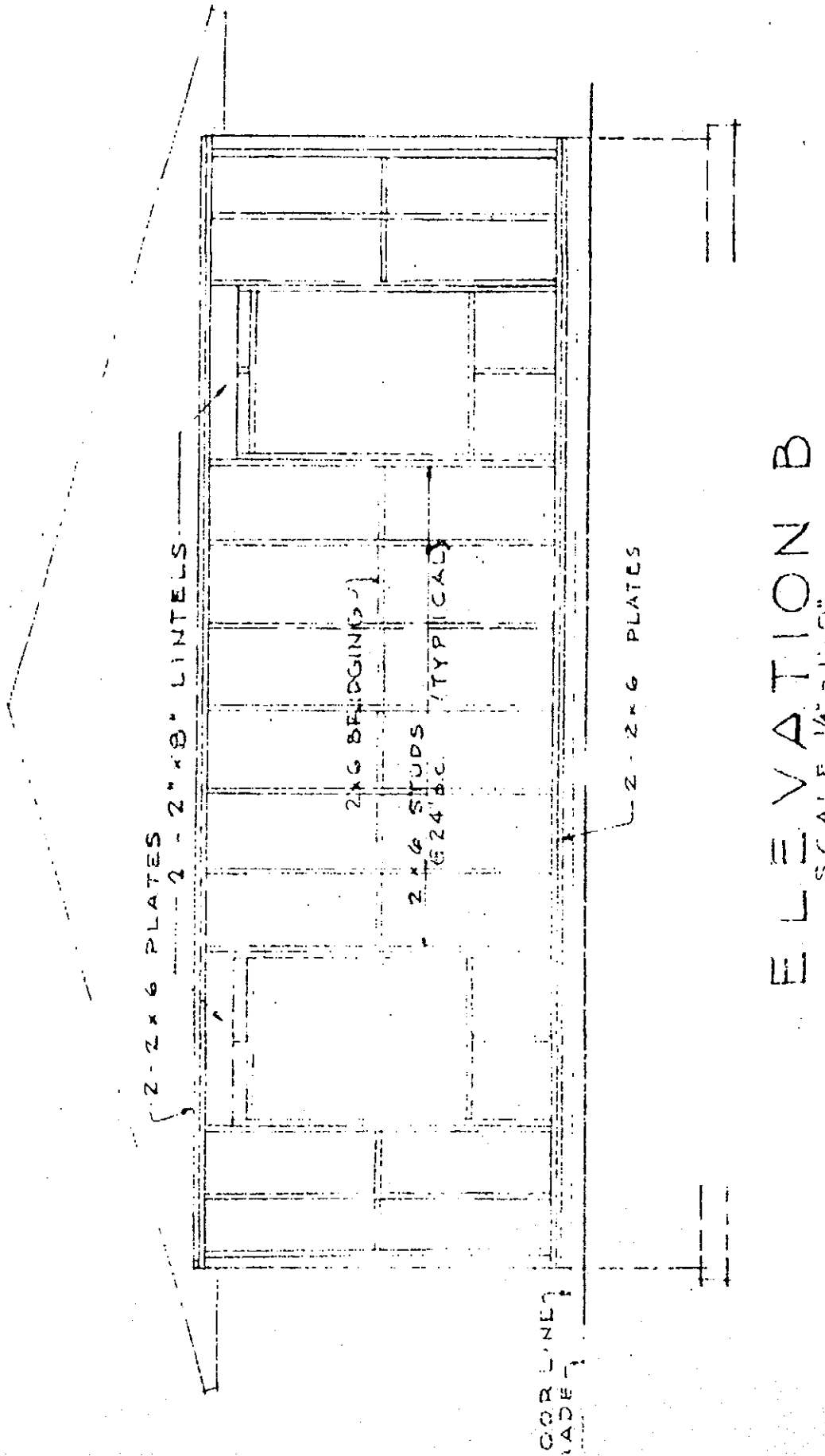


FIGURE 35. MILL VALLEY RELATED BUILDING #'s 218 or 220

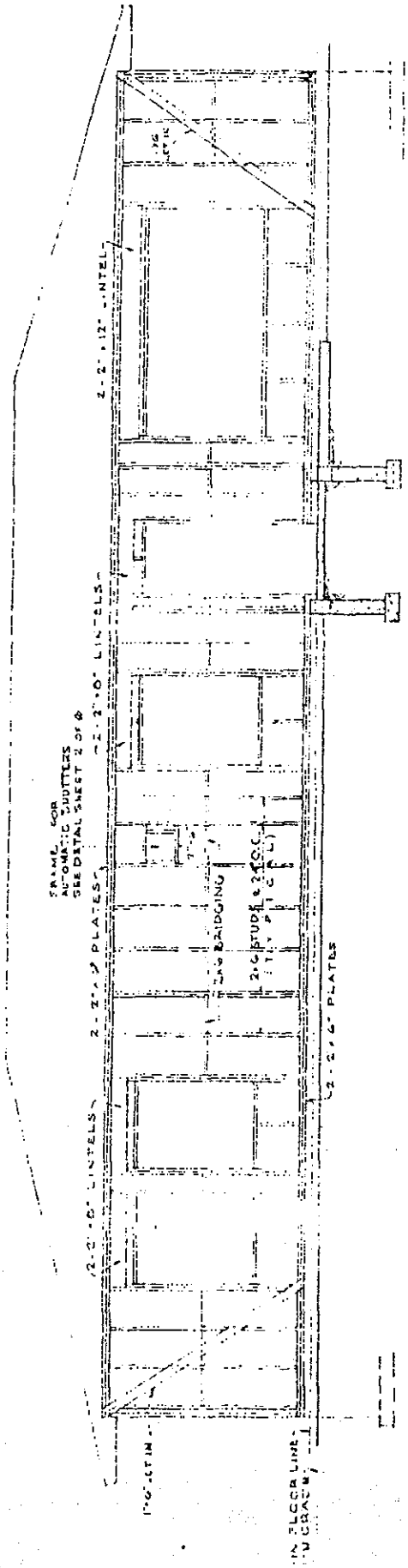


FIGURE 36. MILL VALLEY RELATED BUILDING #'s 218 or 220

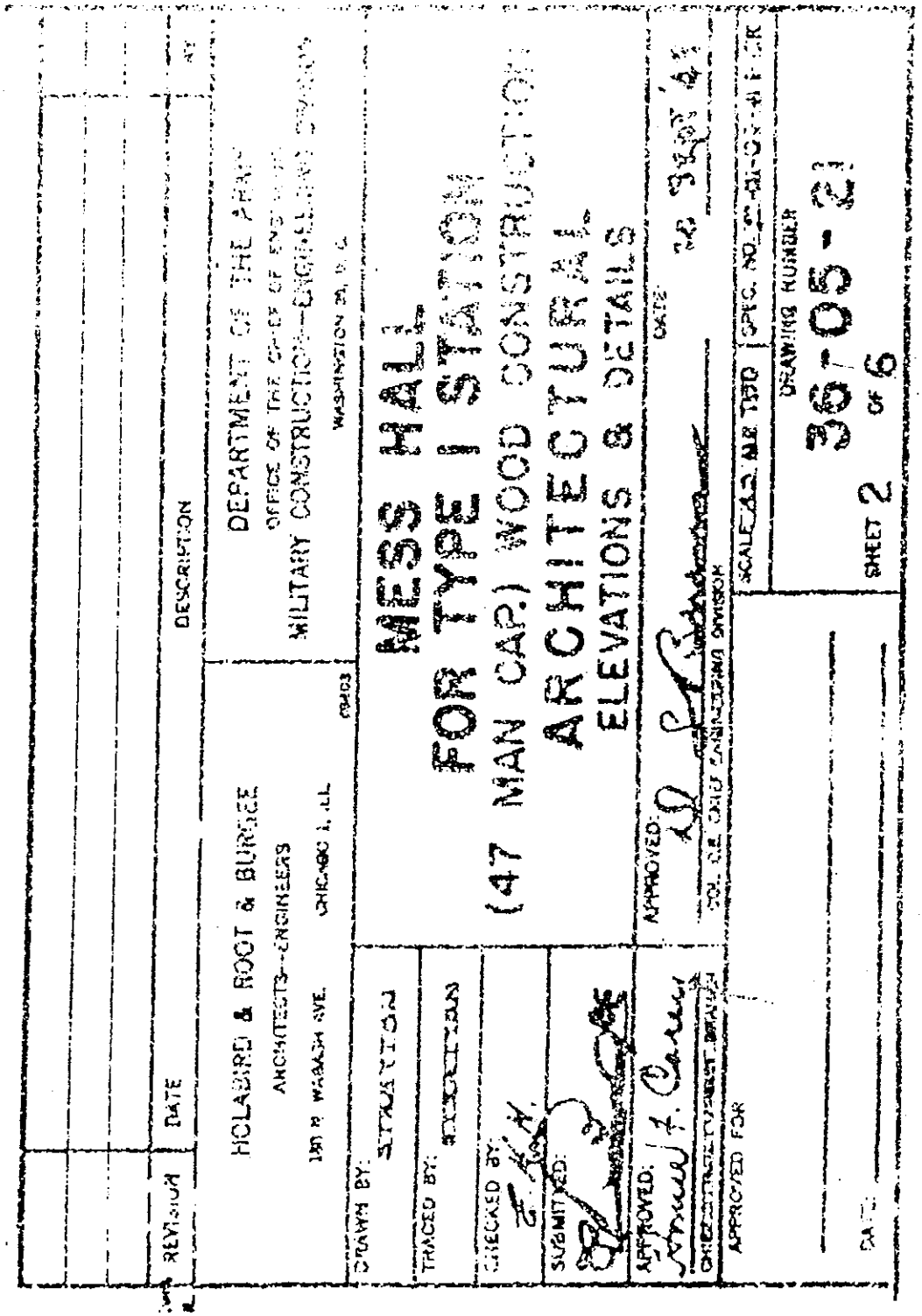


FIGURE 37. MILL VALLEY RELATED BUILDING #'s 218 or 220

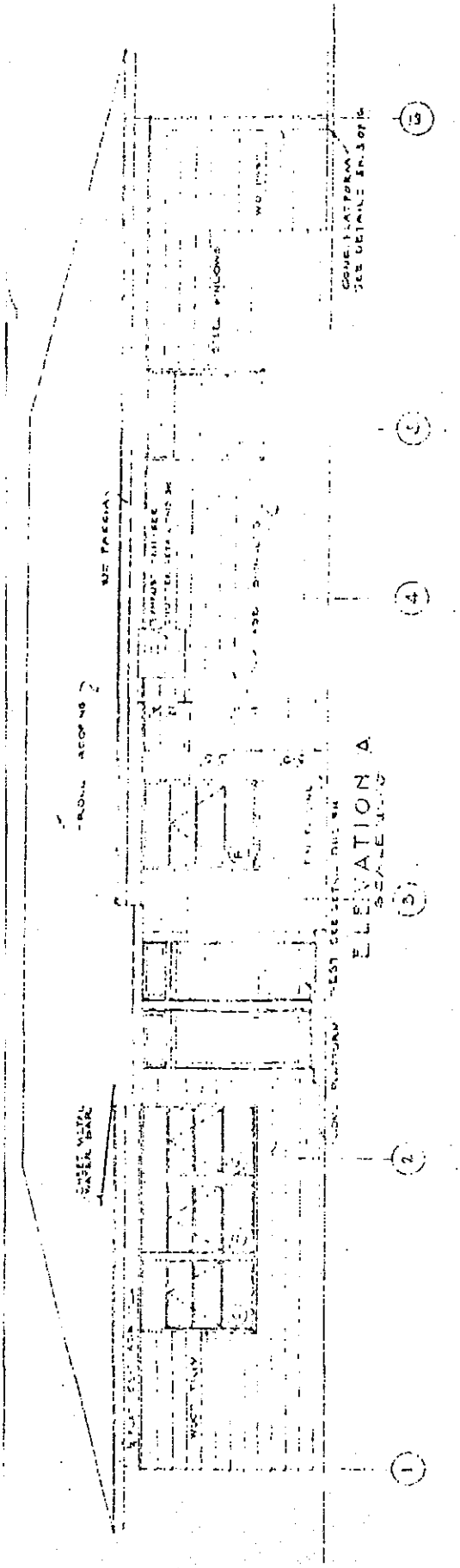


FIGURE 38. MILL VALLEY RELATED BUILDING #'s 218 or 220

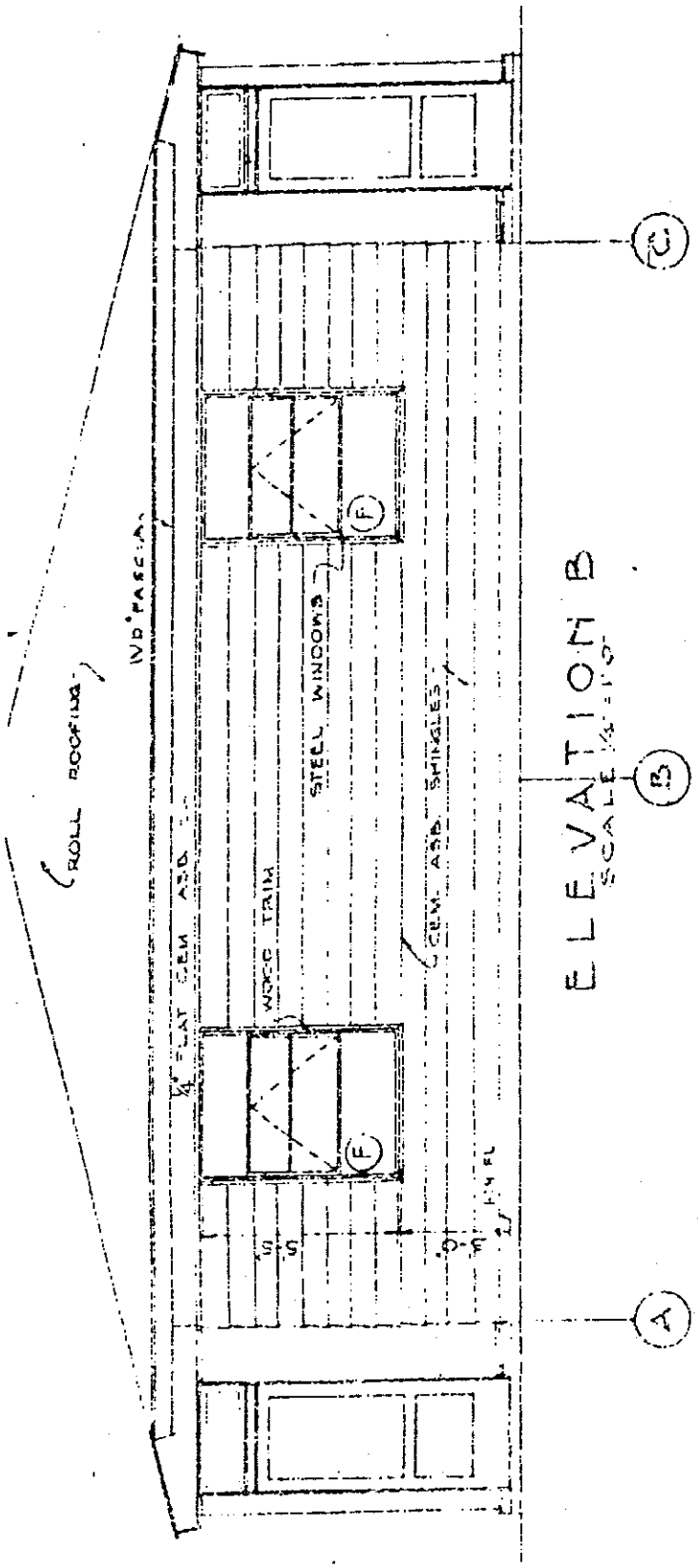


FIGURE 39. MILL VALLEY RELATED BUILDING #'s 218 or 220

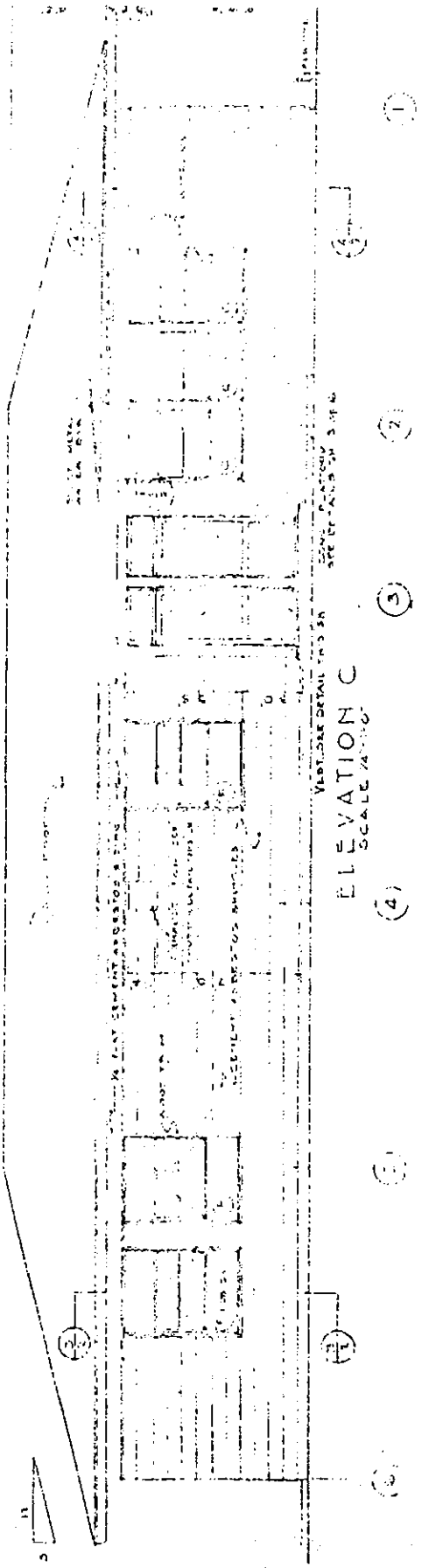


FIGURE 40. MILL VALLEY RELATED BUILDING #'s 218 or 220

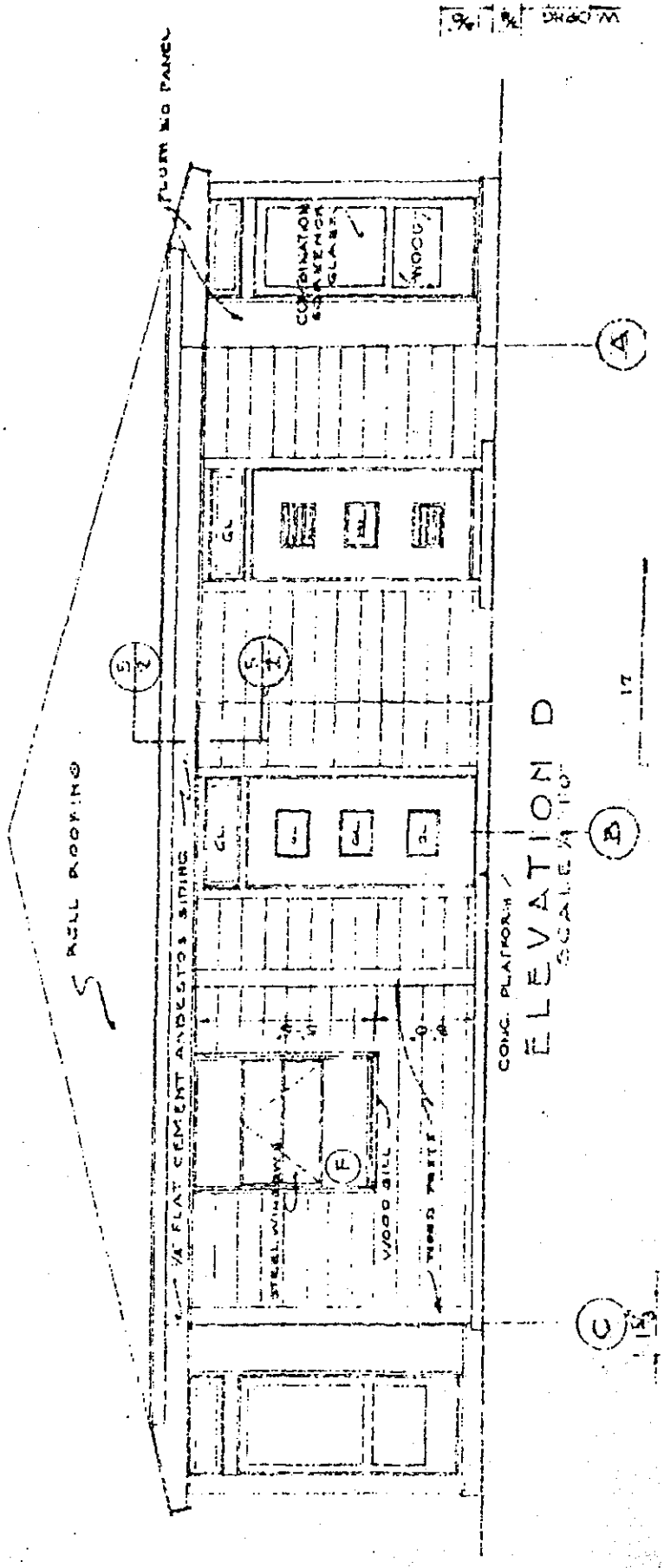


FIGURE 41. MILL VALLEY RELATED BUILDING #400

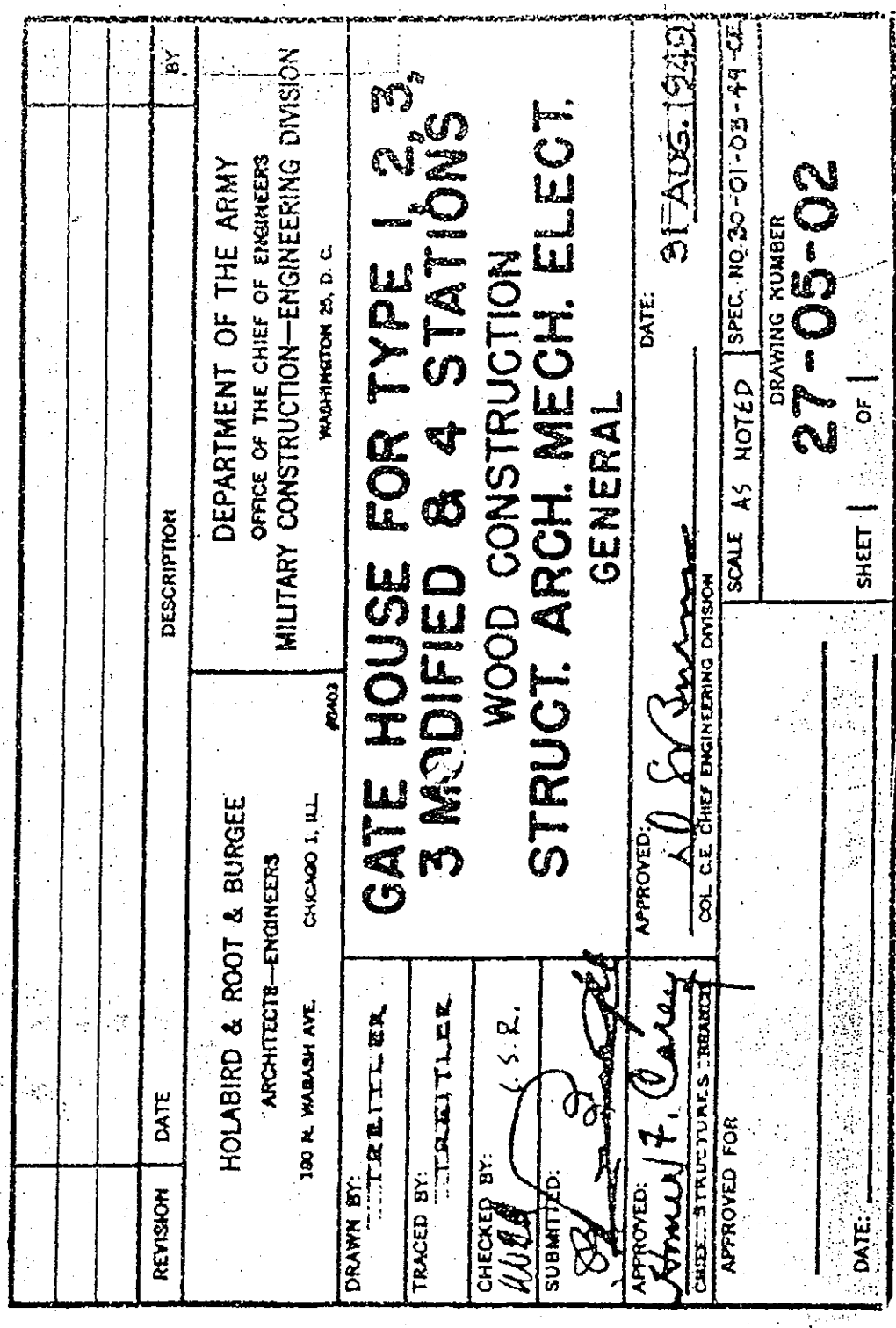


FIGURE 42. MILL VALLEY RELATED BUILDING #400

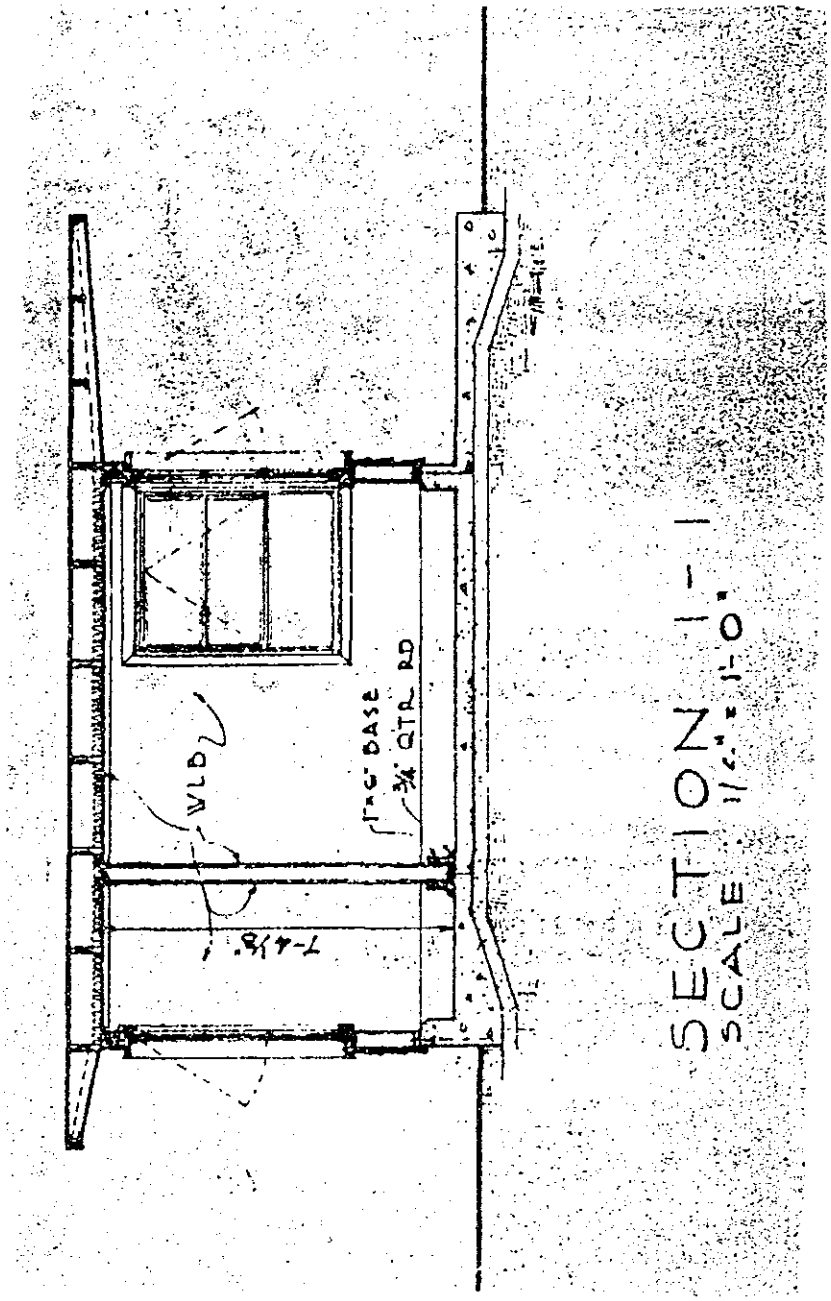


FIGURE 43. MILL VALLEY RELATED BUILDING #400

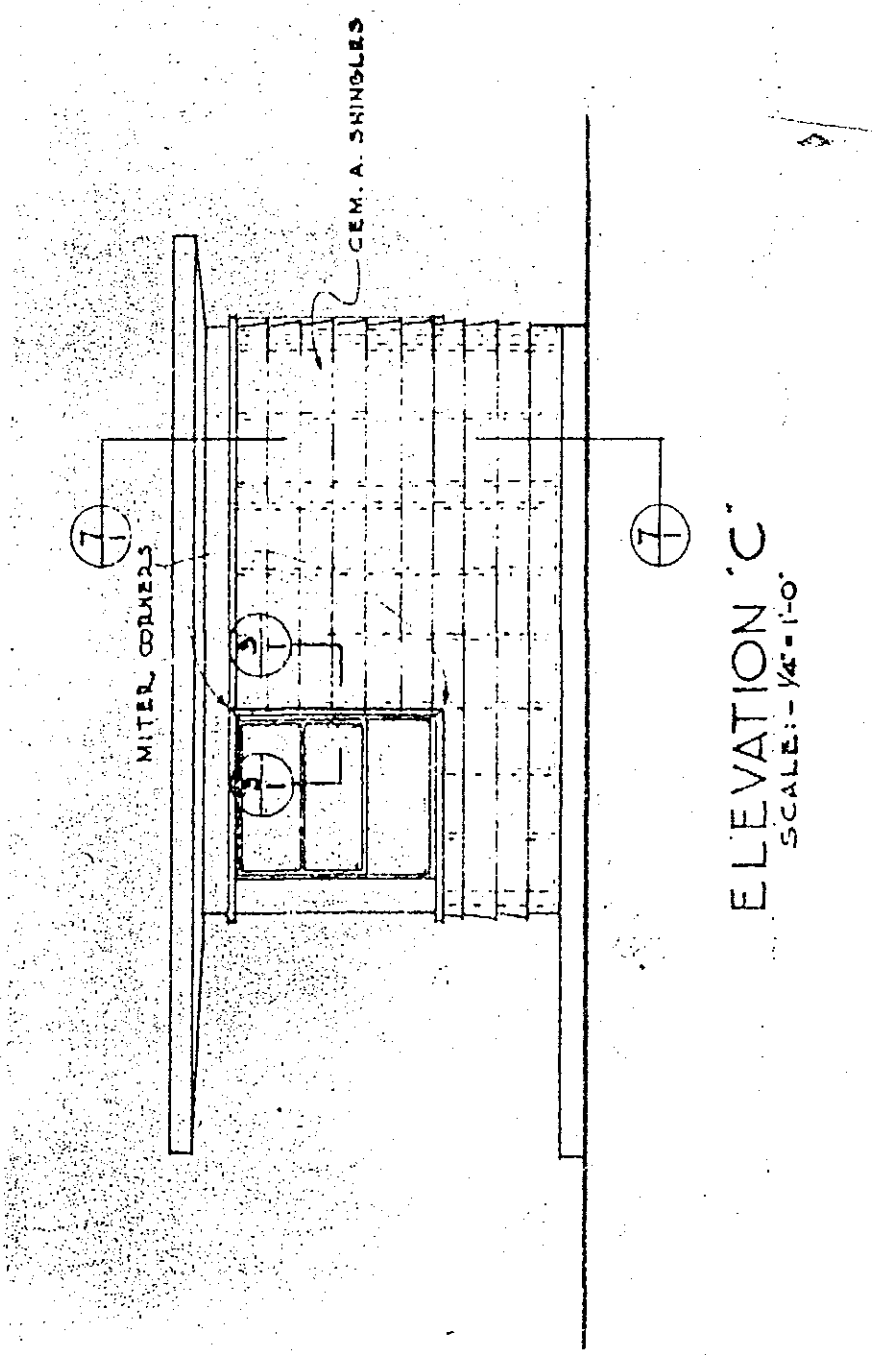


FIGURE 44. MILL VALLEY RELATED BUILDING #400

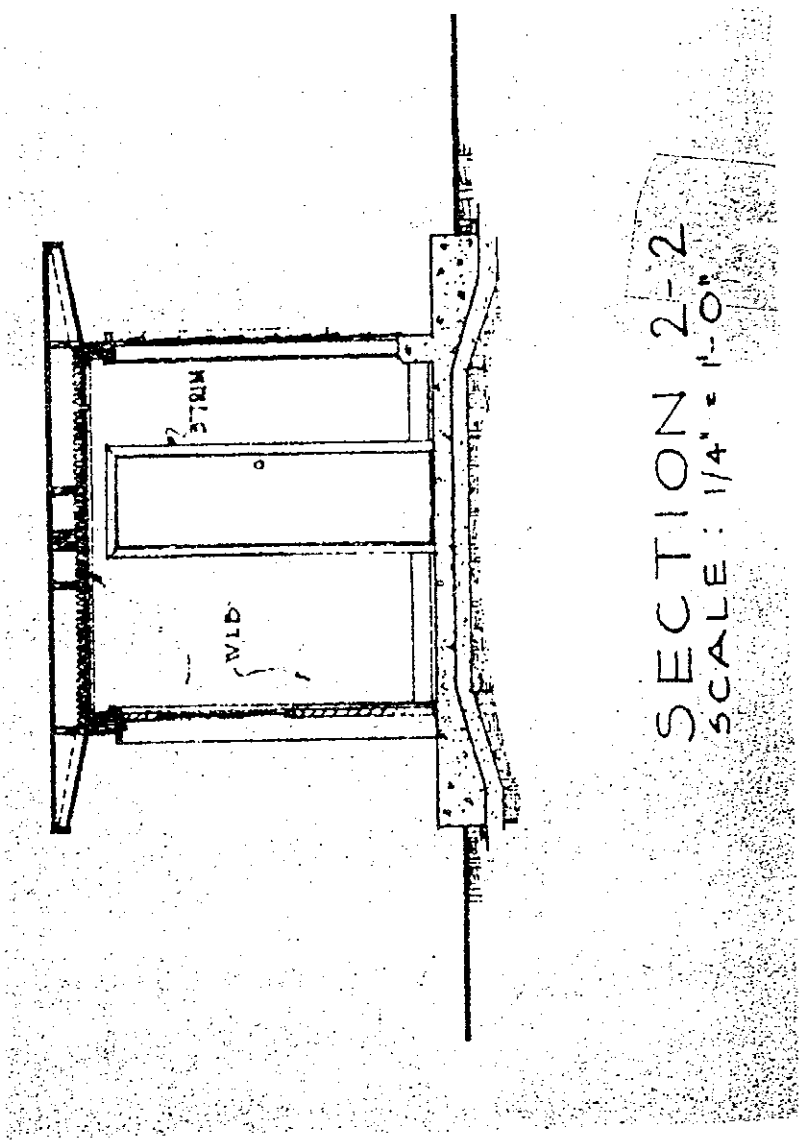


FIGURE 45. MILL VALLEY RELATED BUILDING #400

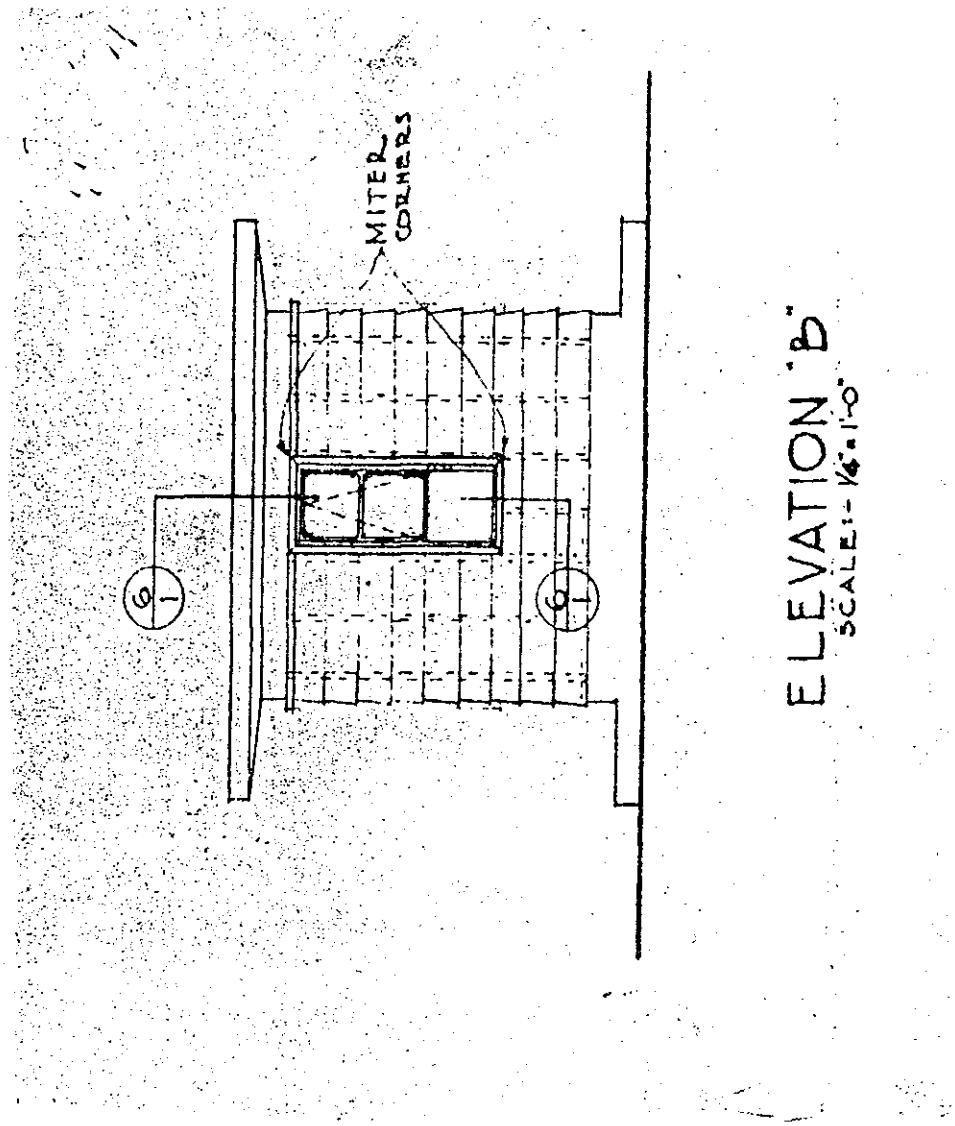


FIGURE 46. MILL VALLEY RELATED BUILDING #400

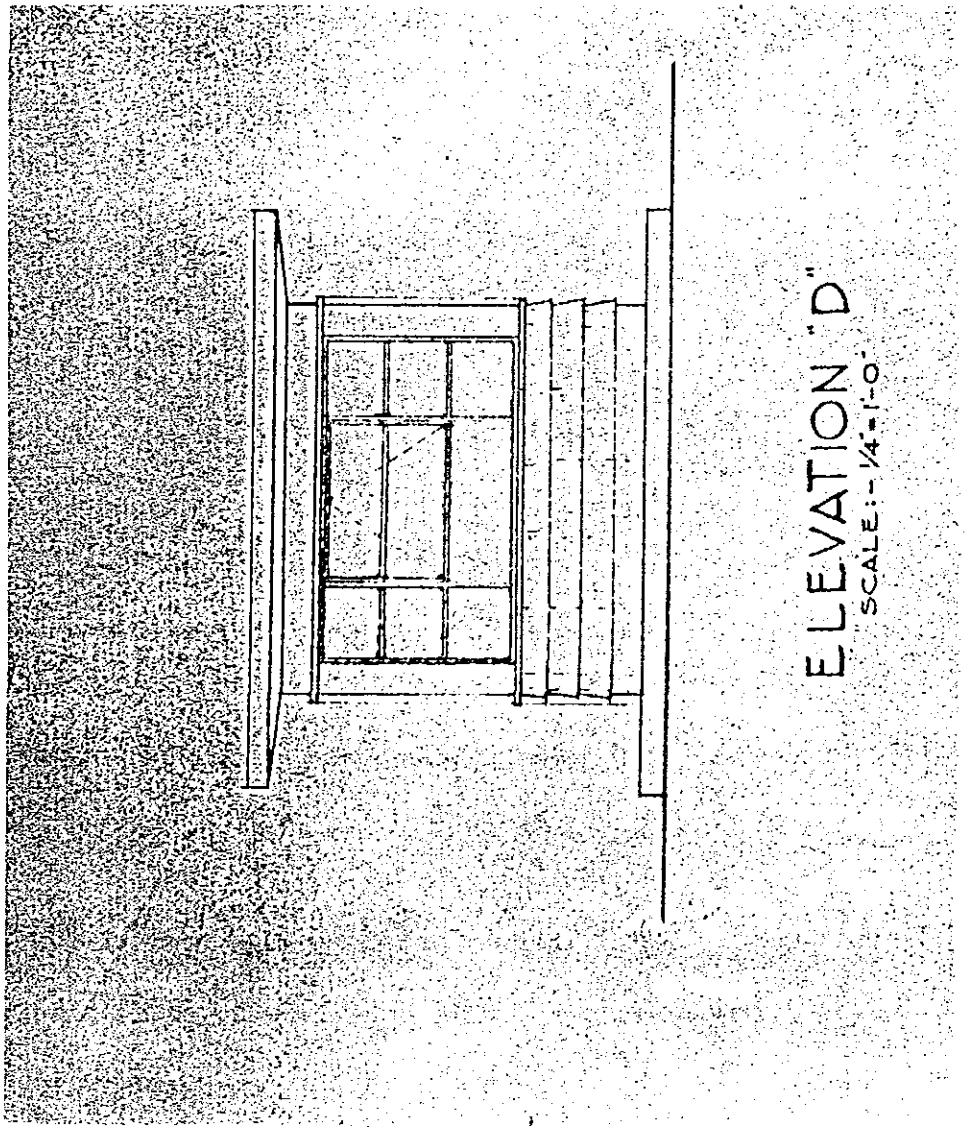


FIGURE 47. MILL VALLEY RELATED BUILDING # 400

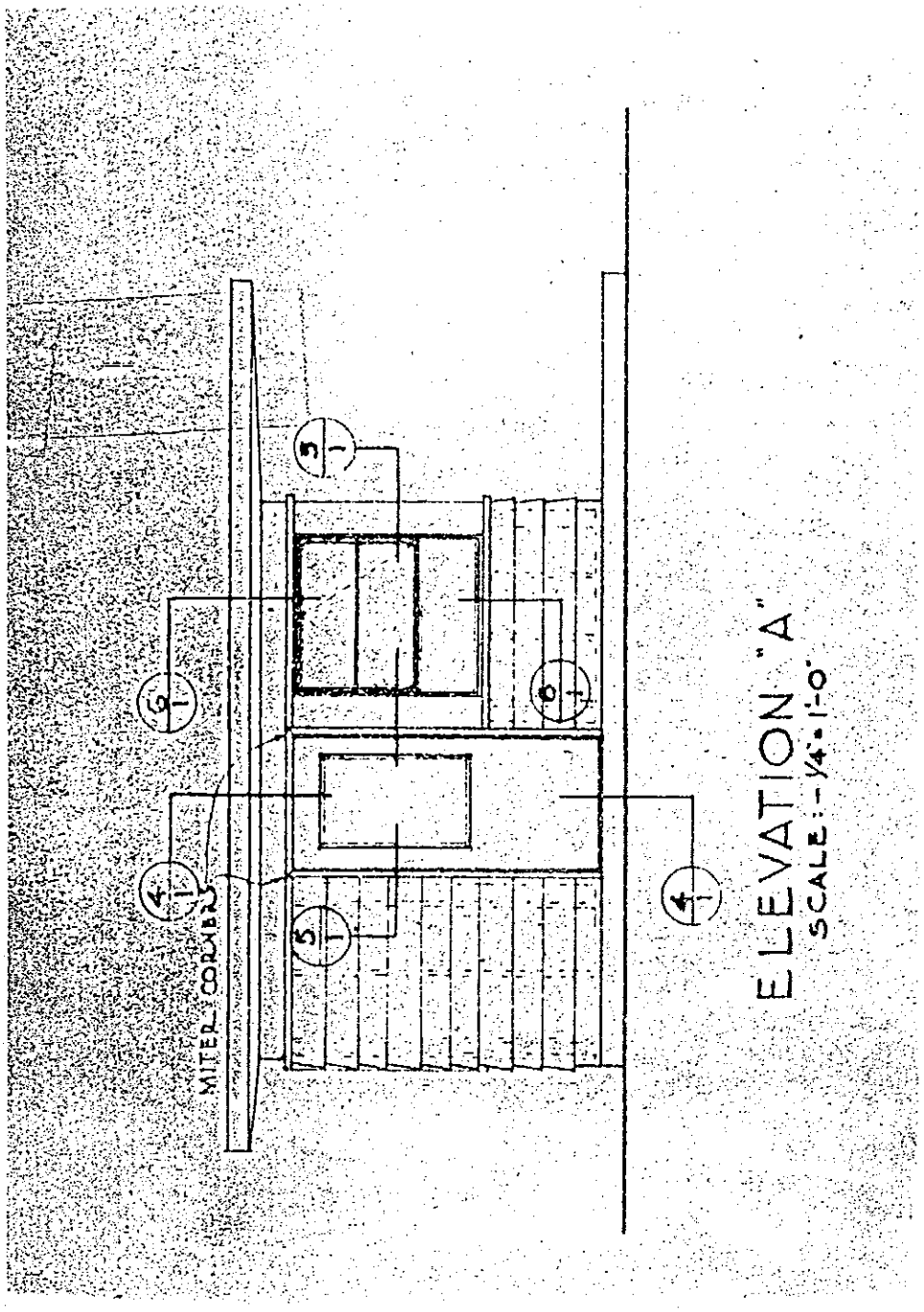


FIGURE 48. MILL VALLEY RELATED BUILDING # 400

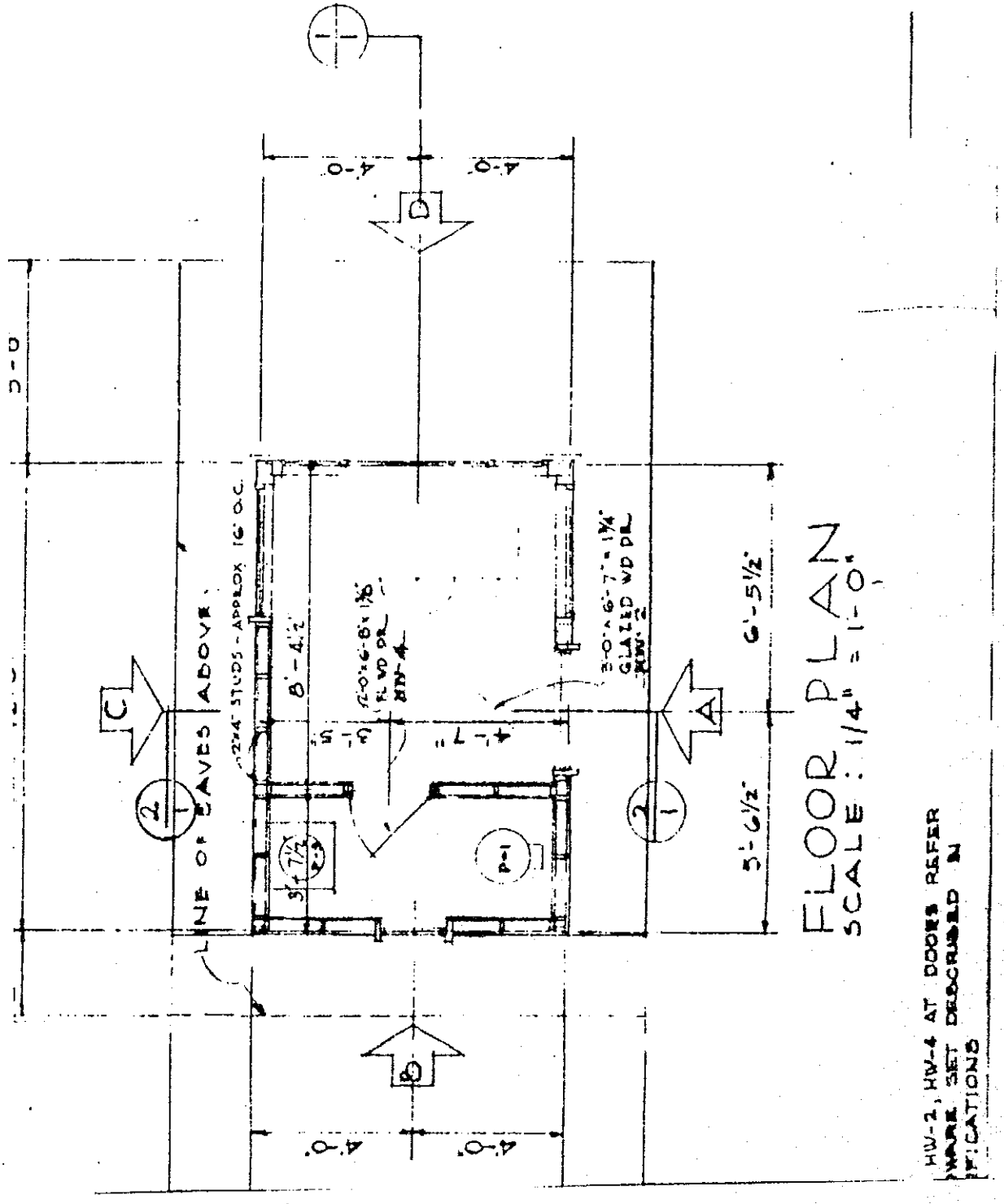


FIGURE 49. MILL VALLEY RELATED BUILDING # 408

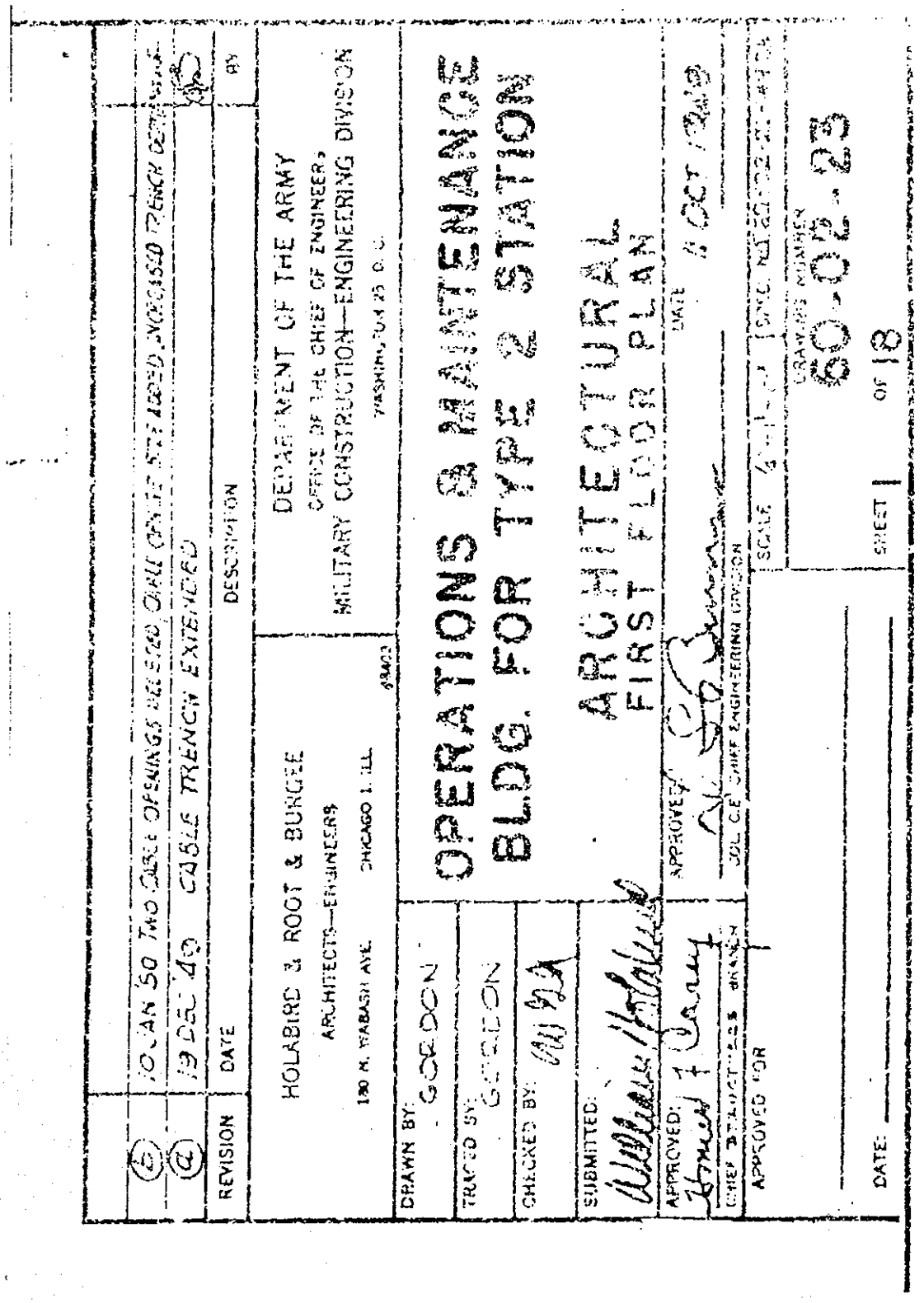
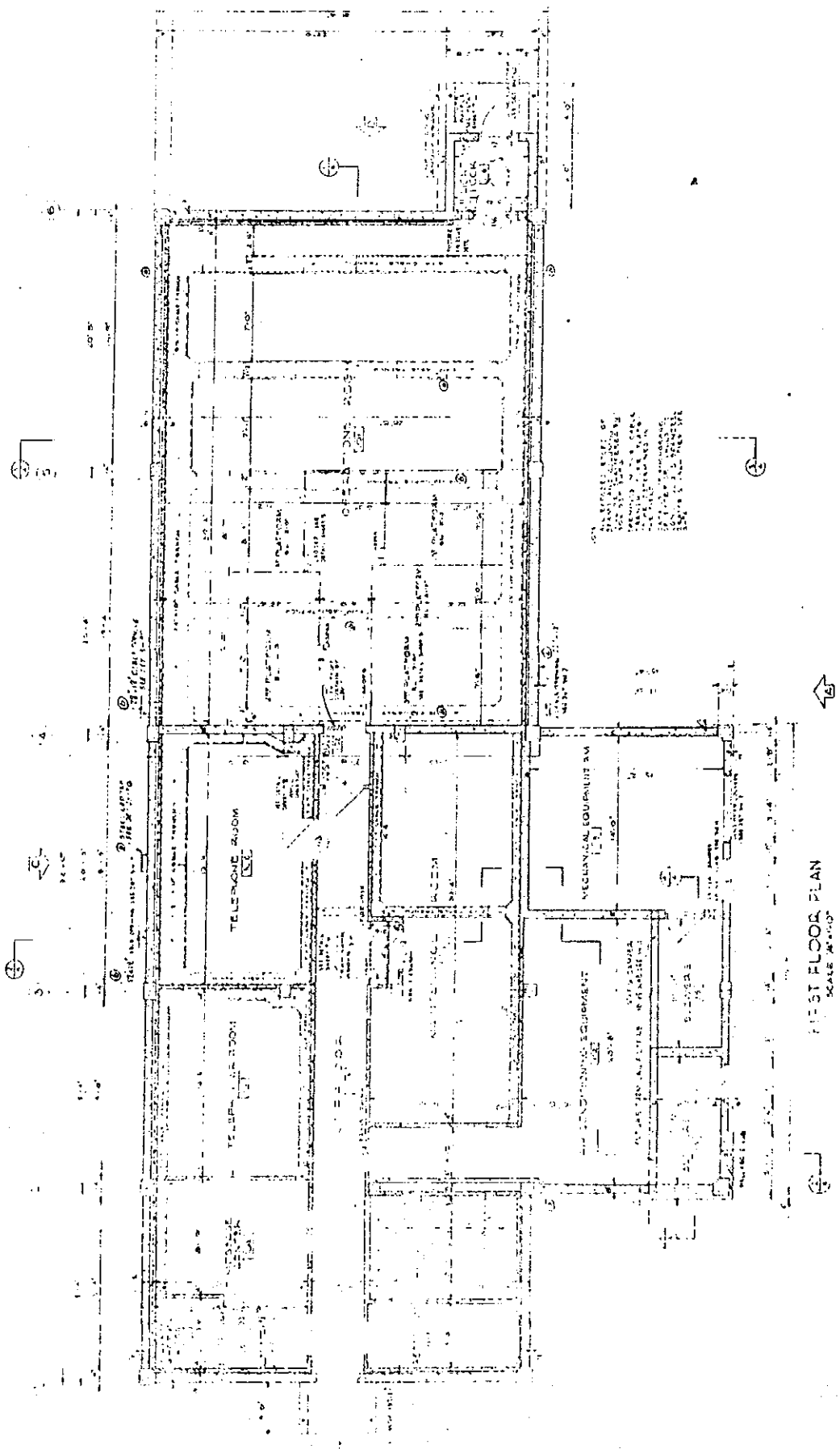
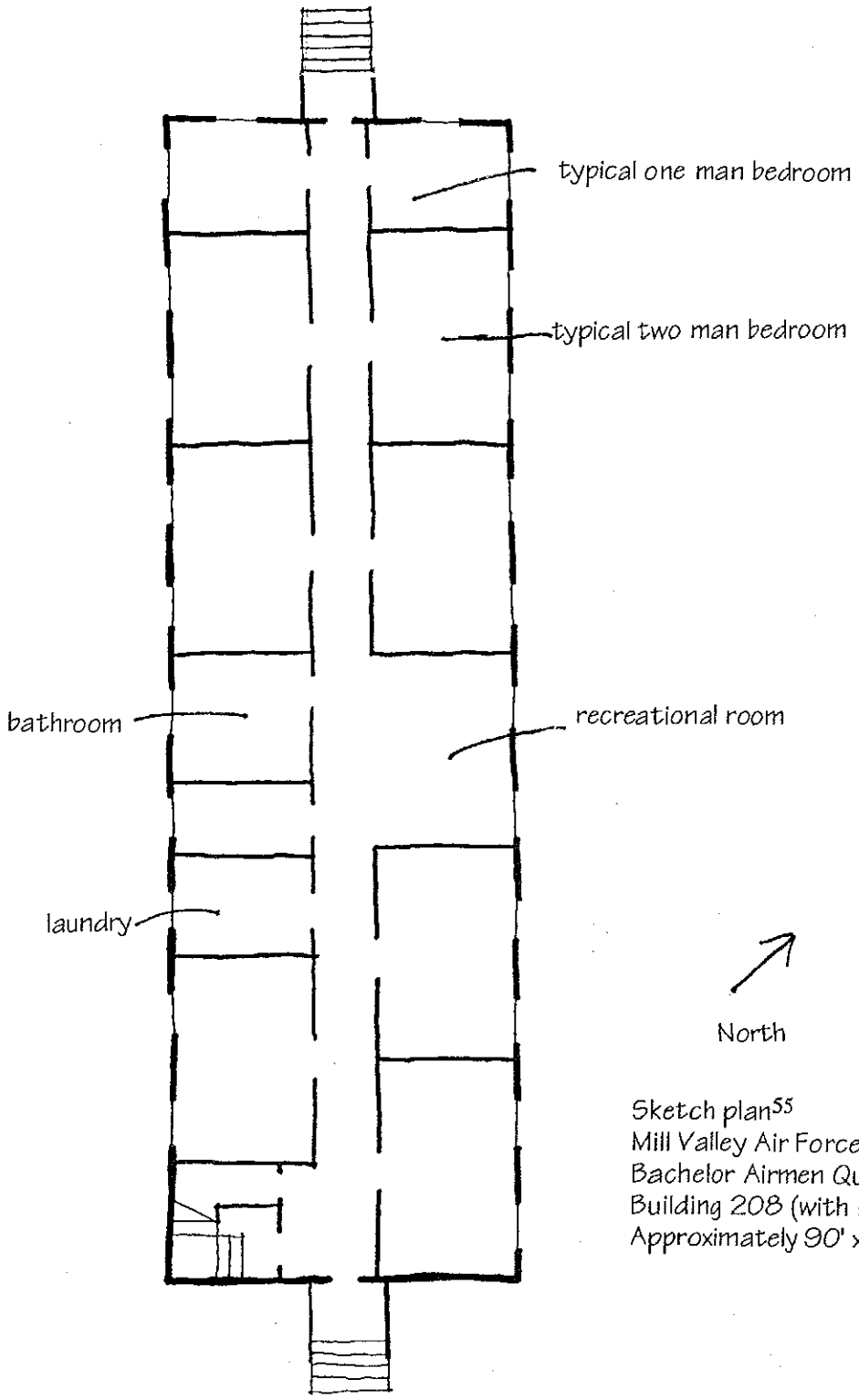


FIGURE 50. MILL VALLEY RELATED BUILDING # 408

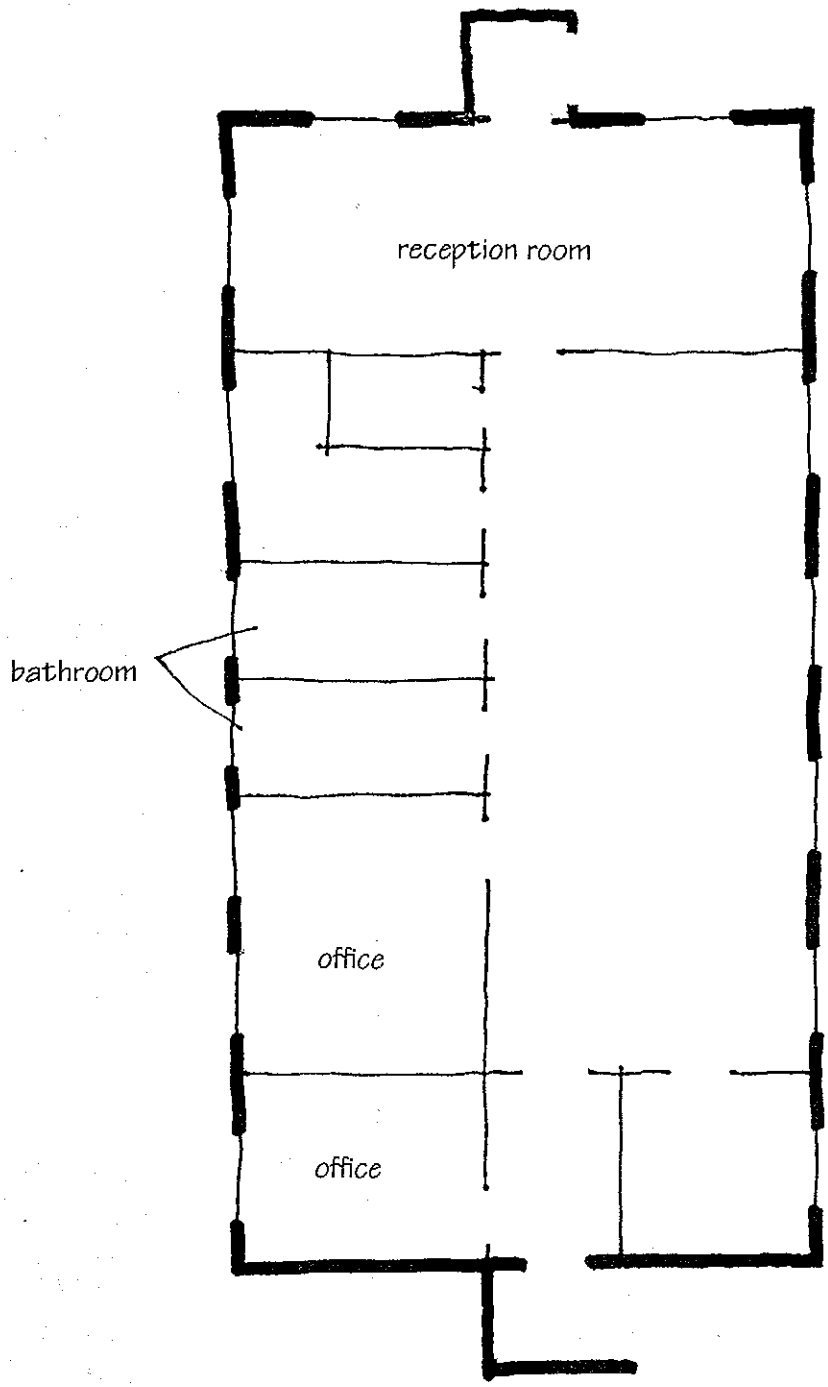


MILL VALLEY AIR FORCE STATION
Sketch Plans

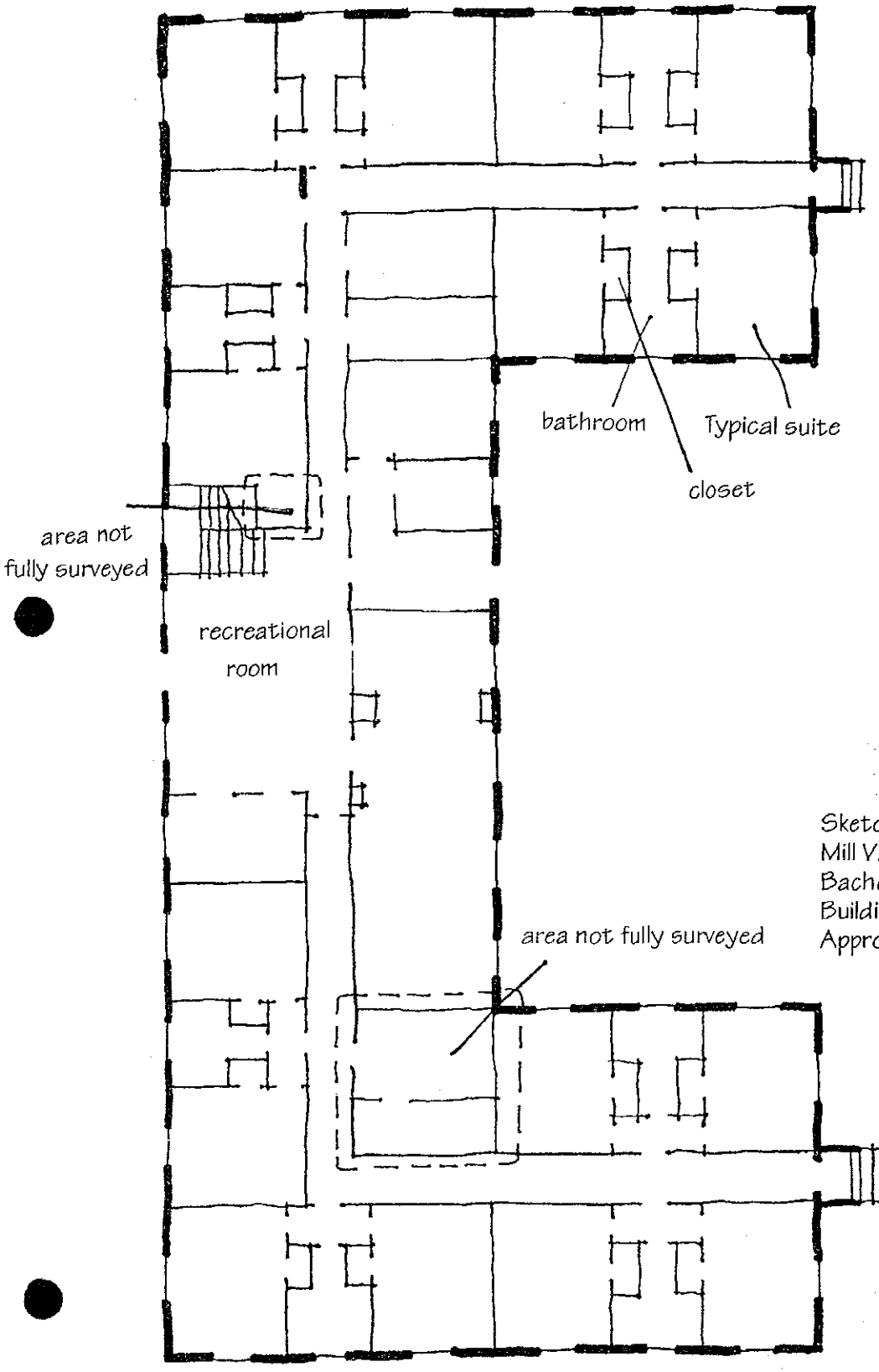


Sketch plan[55]
Mill Valley Air Force Station
Bachelor Airmen Quarters, First Floor
Building 208 (with similar buildings 210,212,214)
Approximately 90' x 30'

[55]The sketch plans on this and the following two pages of this report were derived from measurements taken during a site visit to MVAFS by Jill Johnson and Bridget Maley. The plans are not meant to be exact representations of the buildings, but are approximate measurements taken under hazardous building conditions.



Sketch plan
Mill Valley Air Force Station
Administration Building
Building 202
Approximately 50' x 20'



Sketch plan
Mill Valley Air Force Station
Bachelor Airmen Quarters, First Floor
Building 204
Approximately 115' along the East Facade